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chapter S-2.1, r. 4

Safety Code for the construction industry

An Act respecting occupational health and safety

(chapter S-2.1, s. 223)

DIVISION I

DEFINITIONS

1.1. In this Code, unless otherwise indicated,

(1) "blasting accessory" means any explosive substance used in firing explosives;

(1.1) "CSA" means the Canadian Standards Association;

(1.2) "asbestos" means the fibrous form of mineral silicates belonging to rock-forming minerals of the serpentine group, that is, chrysotile, and the amphibole group, that is, actinolite, amosite, anthophyllite, crocidolite, tremolite or any mixture containing one or more of those minerals;

(2) "hoisting apparatus" means a crane, overhead travelling crane, gantry crane, monorail, platform or fork-lift truck, winch, hoist, derrick, jib crane, gin, auxiliary crane, aerial basket, lifting platform and table, levelling apparatus, truck lifting panel, lifting jack and screw jack;

(3) "ASTM" means the American Society for Testing and Materials;

(4) "continuous noise" means a prolonged noise, including a noise caused by the mechanical impact of solid bodies or by impulsive noise occurring at a frequency higher than one per second;

(5) "impact noise" means any noise caused by the mechanical impact of solid bodies or by impulsive noise repeated or not at a frequency lower than or equal to one per second;

(6) *(paragraph revoked);*

(7) "bolting" means a method for staying partition-walls by means of bolts or other similar devices anchored in the surrounding rock;

(7.0) "CAN/CSA" means the Canadian Standards Association;

(7.1) "life line" means a synthetic fibre rope, a steel wire rope or a strap attached to an anchorage system and used to guide a rope grab;

(8) "high risk construction site" means

(a) an excavation site of 6 m or more in depth;

(b) a trench site, within the meaning of paragraph 34 of this section, 50 m or more in length;

(c) a site where water or sewer works are carried out over a length of 50 m or more;

(d) an underground work site;

(e) where work is carried out underwater or in a hyperbaric environment;

(f) a demolition site;

(g) the site of a building, a structure or part of a structure 15 m or more in height;

(h) a site where electrical transmission lines or their supporting structures are constructed or repaired;

(i) a site where work is carried out 3 m or less from an electrical line of over 750 V;

(j) a site where work is carried out above or near water;

(k) dredging works;

(l) a site where work in an electrical powerhouse or in an electrical transformer station is carried out;

(m) a site where work is carried out in a closed area;

(n) a site where explosives are used and handled;

(o) where high-risk work is carried out within the meaning of paragraph 3 of section 3.23.2 of this Code;

(8.1) "major construction site" means a site where not fewer than 500 workers are employed simultaneously;

(9) "underground work site" means a construction site where works related to the excavation of tunnels and shafts are performed;

(10) "rated load" means the maximum load established by the manufacturer;

(11) "non-combustible construction" means a construction whose structural members, including floors and joints, are made of non-combustible materials;

(12) *(paragraph revoked);*

(12.0) "lanyard" means a rope or strap fastened at one end to a safety harness and at the other end to an anchorage system or other component of a fall arrest connecting device;

(12.1) "digging" means any hole dug in the ground, including an excavation or a trench;

(13) "depot" means a building, construction or receptacle in which explosives are stored;

(13.1) *(paragraph revoked);*

(14) "scaling" has the meaning assigned by paragraph 31;

(14.1) “pump jack scaffold” means a mast-climbing work platform that moves between two masts with the help of jacks;

(14.2) “mast-climbing work platform” means scaffolding constituted of a work platform that moves up and down between two or several masts with the help of a hoisting system and equipped with an anchoring system;

(14.3) “winch scaffolding” means a mast-climbing work platform whose masts are linked by braces or counter braces supporting a work platform that moves with the help of a hoisting device constituted of winches, pulleys and cables;

(15) “scaffold shoring” means an assembly of tubular scaffolding frames used for the shoring of concrete formwork;

(15.01) “motorized scaffolding” means a mast-climbing work platform constituted of a hoisting system made up of an electric, pneumatic or hydraulic motor or a natural gas or gasoline engine;

(15.1) “suspended scaffolding” means a platform suspended by one or more cables fixed to an anchoring point and moved vertically by means of a manual or motorized winch;

(16) *(paragraph revoked);*

(17) “electrical power company” means a person, firm, company, cooperative society or municipality operating an electric energy transportation or distribution network;

(17.1) “confined space” means a space which is not designed to be occupied by a human being, in particular a tank, silo, vat, caisson, shoring pile, stack or manhole;

(18) “excavation” means a piece of land dug out to a depth of at least 1.2 m where the width of the base exceeds the depth;

(18.1) “explosives” means any substance fabricated, manufactured or used to produce an explosion or a detonation, such as gunpowder, blasting powder, dynamite, an explosive in solution, aqueous gelatin, a blasting agent or a blasting accessory;

(19) *(paragraph revoked);*

(20) “manufacturer” means means the maker or his agent or where manufacture is done on the site, the employer;

(21) “safety factor” means the ratio of the ultimate load to the working load;

(21.1) “respirable asbestos fibre” means asbestos fibre having a diameter of less than 3 µm and a ratio of length to diameter of more than 3:1. Only fibres longer than 5 µm are taken into account for measurement purposes;

(21.2) “high-efficiency filter” means a filter capable of filtering particles of 0.3 µm in size at an efficiency rate of at least 99.97%;

(22) “face” means the most advanced work point in a given direction in an underground excavation at a given level;

(23) *(paragraph revoked);*

(23.0) “free fall distance” means the vertical distance measured from the beginning of a fall, from the harness D-ring to which the fall arrest connecting device is attached, to the point where the fall arrest system begins to apply force to stop the fall;

(24) “jumbo” means a hammer-carrying head designed for drilling at the face without having to repeatedly disassemble drilling machines;

(24.0) “fall arrest connecting device” means all equipment, such as a lanyard, energy absorber, snap hook, connector, life line or rope grab, used to secure a safety harness to an anchorage system;

(24.1) *(paragraph revoked);*

(24.2) “friable material” means material that can be crumbled, pulverized or powdered by hand pressure when dry or that is crumbled, pulverized or powdered;

(25) “non-combustible material” means material that complies with CAN4-S114, Standard Method of Test for Determination of Non-Combustibility in Building Materials, applicable at the time of manufacture of the equipment;

(25.01) “dike” means a sandbag barricade, an earth mound or the equivalent located less than 50 cm from the depot and whose height is at least equal to the depot;

(25.1) “protective wall” means a partition made of plywood at least 9 mm thick or made of another rigid material of an equivalent or greater resistance, that is at least 1.8 m high and that is installed at not more than 100 mm above the ground;

(26) “NFPA” means the National Fire Protection Association;

(27) “two-blocking” means a situation where the hook block, the hoisting cable counterweight or other accessories attached to the hoisting cable come into contact with the tip of the boom or with the tip of the jib;

(28) “blasting mat” means a covering used to offer protection against stones or other objects that may be projected as a result of firing explosives;

(29) “low velocity explosive actuated tool” means any tool designed so that when it is used with the maximum explosive charge permitted by the manufacturer's specifications, it imparts to the fastener a speed of not more than 91.4 m per second and transmits to it kinetic energy of not more than 33 joules measured at a distance between 1.99 to 2.01 m from the mouth of the tool;

(29.1) “asbestos dust” means airborne asbestos particles or deposited asbestos particles liable to become airborne in the work area;

(30) “shaft” means a passage dug underground whose longitudinal axis makes an angle greater than 20º with the horizontal;

(31) “scaling” means an action provoking the fall of rocks which tend to become separated from a partition wall or a vault;

(31.01) “SAE” means the Society of Automotive Engineers;

(31.1) “boatswain's chair” means a seat designed for a worker, supported by slings or by a structure and suspended from a cable fixed to an anchoring point;

(32) “hazard signs” means a yellow, orange or red rigid strip, such as a trestle, or flexible strip, at least 70 mm wide and installed, according to the configuration of the land or of the structure, at a height varying between 0.7 m and 1.2 m

(33) *(paragraph revoked);*

(33.1) “flushing toilet” means a toilet having the following features

(a) the bowl has a hatch or a siphon which separates it physically and visually from the drain pipe or the processing tank;

(b) waste is purged from the bowl toward the sewer system or into the processing tank by means of a device causing a flow of water or chemicals;

(33.2) “chemical toilet” means a toilet without a bowl in which waste falls directly into a tank containing a chemical product to process the waste;

(34) “trench” means a piece of land dug to a depth of at least 1.2 m where the width of the base is equal or less than the depth. The width of the base is measured between the excavated walls or between an excavated wall and a structure;

(34.0.1) “work above or near water” means work carried out above or less than 2 m from a body of water or watercourse that is either more than 1.2 m deep and allows the use of a boat, or with a water flow of more than 0.51 m/s sufficient to carry a person;

(34.1) “blasthole” means a boring hole intended to be loaded with explosives;

(34.2) “misfire” means a blasthole loaded with explosives which did not fire;

(35) “tunnel” means an underground passage constructed without removing the material forming the vault and whose longitudinal axis makes an angle of 20º or less in relation to the horizontal;

(36) “ULC” means the Underwriters' Laboratories of Canada;

(37) “loading area” means space that includes the place where workers load the drill holes, drill holes loaded or being loaded and any space occupied by the material and equipment necessary for the loading;

(38) “blasting area” means a place or space that presents a projection or blast hazard to a person or where a hazard exists because of the effects of the blasting.

R.R.Q., 1981, c. S-2.1, r. 6, s. 1.1; Decision 83-11-17, s. 1; O.C. 1959-86, s. 1; O.C. 53-90, s. 1; O.C. 54-90, s. 1; O.C. 995-91, s. 1; O.C. 807-92, s. 1; O.C. 329-94, s. 1; O.C. 1413-98, s. 1; O.C. 35-2001, s. 1; O.C. 119-2008, s. 1; O.C. 425-2010, s. 4; O.C. 393-2011, s. 1; O.C. 476-2013, s. 4; O.C. 606-2014, s. 1; O.C. 57-2015, s. 1; O.C. 428-2015, s. 1; O.C. 513-2015, s. 1.

DIVISION II
GENERAL PROVISIONS

§2.1. Scope

2.1.1. This Code applies to any work carried out on a construction site within the meaning of the Act respecting occupational health and safety (chapter S-2.1), except for facilities provided to workers by the employer for administrative, lodging, eating or recreational purposes, to which this Code applies only where a formal provision exists to that effect.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.1.1; Decision 83-11-17, s. 2; O.C. 393-2011, s. 2.

2.1.2. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.1.2; O.C. 1959-86, s. 2.

§2.2. Responsibility and powers of inspectors

R.R.Q., 1981, c. S-2.1, r. 6, sec. II, ss. 2.2; O.C. 329-94, s. 2; O.C. 119-2008, s. 2.

2.2.1. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.2.1; O.C. 1959-86, s. 2.

2.2.2. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.2.2; O.C. 1959-86, s. 2.

2.2.3. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.2.3; O.C. 1959-86, s. 2.

2.2.4. The inspector shall communicate the findings of his inspection to the employer, the principal contractor, the job-site committee, the safety representative, the public health director and representative associations.

In the absence of a job-site committee, the employer must post a copy of any notice of correction in a conspicuous place accessible to the workers.

Decision 83-11-17, s. 3.

2.2.5. *(Revoked).*

Decision 83-11-17, s. 3; O.C. 329-94, s. 3.

2.2.6. To ascertain the soundness of a construction or installation, the inspector may require an attestation to that effect signed and sealed by an engineer or an architect.

O.C. 119-2008, s. 2.

§2.3. Equivalences

2.3.1. In the application of this Code, the nature, dimensions and arrangement of materials may differ from the rules established as long as the strength of materials and their use ensure as much safety as the prescribed rule.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.3.1.

2.3.2. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.3.2; O.C. 1959-86, s. 2.

§2.4. General obligations

R.R.Q., 1981, c. S-2.1, r. 6; O.C. 1959-86, s. 3.

2.4.1. (1) The principal contractor must notify the Commission de la santé et de la sécurité du travail in writing of the opening of a construction site at least 10 days before activities at the site begin.

The principal contractor must also notify the Commission in writing of the closing of a construction site at least 10 days before the work at the site is expected to end, except where the expected duration of the site is 1 month or less, in which case the Commission must be notified at least 10 days before activities at the site begin.

This subsection does not apply to major construction sites.

(1.1) The prescribed notice must state the following:

(a) the identification number assigned to the principal contractor by the Commission;

(b) the name and address of the principal contractor;

(c) the name and address of the owner if different from the principal contractor, and those of the architects, consulting engineers, superintendents and employers at the site;

(d) the municipal address of the site, its cadastral lot number and its location in relation to the nearest public road;

(e) the type of construction site;

(f) whether the planned construction site is a high risk construction site;

(g) the opening date of the construction site;

(h) the expected duration of the construction site;

(i) the anticipated number of workers;

(j) whether the expected duration of the construction site is 1 month or less, the expected closing date or the date when the work is expected to be completed;

(k) in the case of asbestos removal work or demolition work involving asbestos, the methods and procedures used as well as an attestation to the existence of a training and information program that complies with section 3.23.7.

(1.2) For emergency repairs to waterworks, a sewer, an electrical transmission or distribution line or gas pipeline, the Commission must be informed in writing, by telex, telegram or messenger, of the particulars prescribed in subsection 1.1 as soon as possible, where such work involves 10 or more workers.

No notice is required where such work involves fewer than 10 workers.

(1.3) For demolition work ordered by the public fire prevention service in the interests of public safety, the Commission must be informed in writing, by telex, telegram or messenger, of the particulars prescribed in subsection 1.1 at least 6 hours before the work begins.

(2) Before work mentioned hereunder begins, the employer shall send to the Commission all plans including the installation and disassembling procedures signed and sealed by an engineer of the manufacturer, respecting:

(a) the shoring of an excavation or trench 6 m or deeper;

(b) the shoring of concrete formwork;

(c) any work which has to be done in compressed air and respecting the air lock;

(d) any wood scaffolding 9 m or more in height;

(e) any metal scaffolding 18 m or more in height;

(f) any outrigger scaffolding or suspended outrigger scaffolding extending out more than 2.4 m from the finished face of a building;

(g) any temporary runway or platform designed to support workers and that is part of the forms;

(h) any platform, bucket or basket attached to a hoisting device for the transport of persons;

(i) any scaffolding used or installed on a vehicle or any equipment which may be moved;

(j) any anchoring device used for the installation of prefabricated concrete slabs or prefabricated buildings;

(k) any spreader bar used for the installation of prefabricated concrete slabs or prefabricated buildings;

(l) any suspended scaffolding or boatswain's chair;

(m) any mast-climbing work platform that must be anchored, except in the case of a pump jack scaffold.

(3) Before installing or putting up tower cranes, hoists or job-site elevators, the employer shall send to the Commission the installation plans signed and sealed by an engineer. These plans shall also include the disassembling procedure.

(4) The copies of the compliance certificate signed by an engineer shall be sent to the Commission before the work begins.

(5) A certified copy of the plans mentioned in subsections 2 and 3, or of the certificates mentioned in subsection 4 shall be available at all times on the construction site.

(6) The employer shall:

(a) (paragraph revoked);

(b) ensure the good operation of safety devices and fire prevention apparatus;

(c) (paragraph revoked);

(d) ensure that any area of great depth has an easy means of evacuation and a ventilation system, where there is a possibility of gas, vapours or other dangerous substances or contaminants accumulating.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.4.1; Decision, 83-11-17, s. 4; O.C. 1959-86, s. 4; O.C. 54-90, s. 2; O.C. 807-92, s. 2; O.C. 119-2008, s. 3.

2.4.2. The employer shall ensure that:

(a) all necessary steps are taken to ensure public safety and the safety of workers;

(b) any worker on a construction site wears at all times clothing completely covering his torso and back;

(c) (paragraph revoked);

(d) workers do not involve themselves in games or competitions while at work;

(e) any worker does not work while his faculties are impaired by alcohol, drug or any other similar substance;

(f) any worker knows:

(i) this Code;

(ii) any operation ensuring the good running order of apparatus and machinery for which he is responsible;

(iii) the emergency measures to observe in case of fire, explosion, or other accidents;

(g) any worker is informed of the inherent dangers in his work;

(h) *(paragraph revoked);*

(i) management and control staff working mainly and usually on a construction site and workers working on a construction site have taken a safety course and hold a certificate issued by the Commission or by an organization it recognizes.

However, a natural person who, to obtain a contractor's licence or to qualify a partnership or legal person for a licence, has passed the examination on construction site safety management skills required by the Regulation respecting the professional qualification of contractors and owner-builders (chapter B-1.1, r. 9) or who is exempted therefrom by that regulation or by a regulation under section 182 of the Building Act (chapter B-1.1), shall be exempted from taking such safety course;

(j) on an outlying construction site, all the required accommodations are provided for the inspector on the duration of this inspection work;

(k) the apparatus, equipment or tools used on a construction site conform to this Code.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.4.2; Decision, 83-11-17, s. 5; O.C. 21-85, s. 1; O.C. 1959-86, s. 5; O.C. 329-94, s. 4; S.Q. 1996, c. 74, s. 54; O.C. 1413-98, s. 2.

2.4.3. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.4.3; O.C. 1959-86, s. 6.

2.4.4. On a construction site, traffic control, use of public ways, temporary electrical installation, housekeeping of sites, toilets and their accessories, public safety, access to the site, protection against fire, permanent ramps and guardrails, temporary heating, transportation and rescue on water and all other general safety measures are the responsibility of the principal contractor.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.4.4; O.C. 1959-86, s. 7; O.C. 428-2015, s. 2; O.C. 513-2015, s. 2.

§2.5. Organization of safety

2.5.1. **Site committee:** A site committee shall be established on any construction site employing 25 workers or more at any time during the work.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.5.1.

2.5.2. (1) The site committee is the responsibility of the employer who acts as general contractor or of the owner or his representative.

(2) The site committee shall be composed of:

(a) at least one representative of the general contractor or of the owner or his representative;

(b) one representative from the management staff of each of the employers, other than the general contractor or the owner or his representative, who has more than 10 workers in his employ;

(c) one representative from each of the associations representing the employees, and recognized by the Act respecting labour relations, vocational training and manpower management in the construction industry (chapter R-20), and with affiliated workers present on the site.

(3) The site committee shall:

(a) see that this Code is respected;

(b) see that the safety measures to be taken on the site are coordinated;

(c) hold meetings at least every 2 weeks; and

(d) keep minutes of the meetings.

(4) Committee meetings may be held by sector when the work performed by workers in one sector does not affect the safety of workers in another sector on the site.

(5) The safety officer shall be present at site committee meetings.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.5.2.

2.5.3. **Safety officer:**

(1) At least one full-time officer shall be on duty as of the beginning of any work on a construction site:

(a) employing 150 workers or more at any time during the work; or

(b) whose total contract cost exceeds $8,000,000, except for highway construction, maintenance and repair other than work on bridges, tunnels or overpasses.

(2) The number of full-time safety officers required to work on a construction site is proportional to the number of workers working on the site and is determined as follows:

Number of workers on the site	*Number of safety officers*
150 to 299	1
300 to 599	2
600 to 1,199	3
1,200 to 2,399	4
2,400 and over	5

(3) Moreover, a safety officer shall stay on the site when more than 50 workers are working overtime.

(4) Notwithstanding subsection 1, during the finishing-up period of the work, the safety officer is not needed when:

(a) 20 workers or less are still working on a construction site where less than 200 workers had been employed;

(b) 50 workers or less are still working on a construction site where more than 500 workers had been employed;

(c) 10% of the workers are still working on a construction site where between 200 and 500 workers had been employed.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.5.3; O.C. 1959-86, s. 8.

2.5.4. Duties of the safety officer:

(1) The safety officer is a member of the senior personnel under the responsibility of the principal contractor.

(2) The safety officer shall:

(a) have at least 10 years' working experience in the construction of industrial, commercial or office buildings, of public buildings or with a civil engineering firm. Failing this, he shall have equivalent training;

(b) be familiar with this Code and the general principles of accident prevention; and

(c) hold an attestation of safety officer delivered by the Commission. Such attestation is delivered to any person who has followed with success the required safety officer's course or who, according to the examining committee, has the equivalent technical knowledge.

(3) The duties of the safety officer apply only to safety; he particularly:

(a) coordinates the orders and any safety measures taken for the site with the provisions of this Code and sees to their observance;

(b) ensures that any worker is informed as to the inherent risks in his work;

(c) takes note of the recommendations and the minutes of the meetings of the employers' safety committees;

(d) receives any order or notice respecting defects remitted by an inspector authorized according to the Act respecting occupational health and safety (chapter S-2.1);

(e) participates in the drawing up of safety orders for the site; and

(f) intervenes when there is risk of accident and investigates following an accident.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.5.4; O.C. 1959-86, s. 9; O.C. 606-2014, s. 2.

2.6 *(Revoked)*

R.R.Q., 1981, c. S-2.1, r. 6; O.C. 1959-86, s. 10.

2.6.1. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.6.1; O.C. 1959-86, s. 10.

2.6.2. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.6.2; O.C. 1959-86, s. 10.

§2.7. Public safety

2.7.1. Protective measure: A construction site shall be separated from any place to which the public has access by

(a) a covered passage if the works are carried out on more than one floor and if the sidewalk or the public way is less than 2 m from the site or from the projection of the latter at the level of the sidewalk or the public way; or

(b) protective wall if the sidewalk or the public ways is 2 m or more away and should there be any danger to the pedestrians.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.7.1; O.C. 1413-98, s. 3; O.C. 35-2001, s. 2.

2.7.2. Characteristics of covered passage: The covered passage shall:

(a) have a clear height of at least 2.1 m;

(b) have a clear width of at least 1.5 m or equal to the width of the sidewalk, whichever is less;

(c) be so designed and built as to support safely any load which may be reasonably applied to it. However, the passage shall be able to support a load at least 2,400 N/m^2 applied on the roof;

(d) have a weatherproof roof sloped towards the site;

(e) be totally enclosed on the site side and present a smooth surface on the inside of the passage;

(f) have a guardrail of 1,070 mm in height on the street side, when the passage is supported on posts on this side; and

(g) be sufficiently lighted when the street is lighted.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.7.2; O.C. 35-2001, s. 3.

2.7.3. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.7.3; O.C. 1413-98, s. 4; O.C. 35-2001, s. 4.

§2.8. Traffic control on a construction site

2.8.1. Vehicular traffic shall be controlled in order to protect any person on the site. The principal contractor shall implement the following measures:

(a) a traffic plan showing:

(i) the location and size of all roads;

(ii) traffic signs; and

(iii) allowed maximum speeds;

(b) this plan must be available at all times on the work site;

(c) signs and maximum speed indicators must be located in accordance with this plan; and

(d) dust must be kept down on all roads.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.8.1; O.C. 329-94, s. 5.

§2.9. Fall protection

R.R.Q., 1981, c. S-2.1, r. 6, sec. II, ss. 2.9; O.C. 329-94, s. 6; O.C. 35-2001, s. 5.

2.9.1. **Safety measures:** Workers shall be protected against falls in the following cases:

(1) if they are at risk of falling more than 3 m from the place where he is working;

(2) if they are at risk of falling:

(a) into a dangerous liquid or substance;

(b) on a moving component;

(c) on equipment or material that constitute a danger;

(d) from a height of 1.2 m or more where they use a wheelbarrow or a vehicle.

In such cases and subject to section 2.9.2, one or several of the following measures shall be taken by the employer to ensure the safety of workers:

(1) change the work position of workers so that they can work on the ground or on another surface from which they are not at risk of falling;

(2) install guard-rails or a system which, by limiting the movements of workers, prevent them from being at risk of falling;

(3) use common protective devices and equipment, such as safety nets;

(4) ensure that workers wear safety harnesses secured to an anchorage system by a fall arrest connecting device, the whole in accordance with sections 2.10.12 and 2.10.15 when they are working. When workers cannot position themselves without the help of their fall arrest connecting device, ensure that they also use a means of positioning, such as a plank on brackets, a positioning tether or strap, a suspension cable or a platform;

(5) use another means that ensures equivalent safety for workers.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.9.1; O.C. 329-94, s. 6; O.C. 35-2001, s. 5; O.C. 606-2014, s. 3.

2.9.2. **Installation of guard-rails:** Guard-rails must be placed on open sides of a floor, roof, platform, ramp, or scaffoldings or stairs around an excavation or any area from which workers may fall:

(1) into a dangerous liquid or substance;

(2) a vertical distance of 1.2 m or more where he uses a wheelbarrow or another vehicle; or

(3) a height greater than 3 m in other cases.

Despite the foregoing, such a guard-rail may be removed during work if it is a nuisance. In such a case, workers must wear a safety harness secured to an anchorage system by a fall arrest connecting device, the whole in accordance with sections 2.10.12 and 2.10.15. The work area must then be delimited in particular by a continuous barrier or trestles of a minimum height of 0.7 m, located at a distance varying between 0.9 m and 1.2 m from the place where workers are at risk of falling, or by a warning line complying with the requirements of section 2.9.4.1, so as to prevent access thereto by persons not working therein.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.9.2; O.C. 995-91, s. 2; O.C. 35-2001, s. 5; O.C. 606-2014, s. 4.

2.9.3. **Safety net:** Where a safety net is installed, it must

(1) be installed so as to allow a free fall of not more than 6 m;

(2) have a sufficiently large area to intercept a person who has fallen;

(3) be capable of supporting a mass of 115 kg falling from a maximum height of 6 m and with a safety factor of 3;

(4) be sufficiently flexible to form a pocket and retain any person who has fallen;

(5) be weather resistant;

(6) be free of all foreign matter;

(7) have openings of about 150 mm × 150 mm;

(8) be installed in such a way that, when used, the person who falls therein will not hit an obstacle under or above the net or be hit by an object.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.9.3; O.C. 995-91, s. 2; O.C. 35-2001, s. 5.

2.9.4. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.9.4; O.C. 329-94, s. 6.

2.9.4.0. Despite section 2.9.2, a warning line may be installed, during bridging or roofing work, on surfaces with a slope equal to or less than 15 ° (3/12), in order to replace the use of a guard-rail and delimit a work area.

In such a case, another recognized means of protection against falls, such as a safety harness secured to an anchorage system by a fall arrest connecting device, the whole in accordance with sections 2.10.12 and 2.10.15, must be used outside the area delimited by the warning line.

O.C. 606-2014, s. 5.

2.9.4.1. **Warning line:** A warning line must be

(1) continuous and installed on all sides of the work area that it delimits;

(2) placed at a distance of 2 m or more from any place where a worker may fall from a height;

(3) made of a rigid strip, a cable or a chain able to withstand a tractive force of at least 2.22 kN;

(4) equipped with flags made of high-visibility materials and placed at intervals of not more than 2 m;

(5) capable of withstanding a load of 100 N applied horizontally at the line's highest point or vertically at its midpoint between 2 stanchions;

(6) completed at each access point, storage area or hoisting area by a path formed by 2 parallel lines. However, when the path to a point of access to a work area is located at a distance of more than 5 m from it, the warning line does not have to be continued beyond that distance. In places where the access path starts at a roof edge, a guard-rail must be installed on the side of the roof, in compliance with section 2.9.2, so as to cover the first 3 metres on either side of the access path's starting point; and

(7) installed so that the line is

(a) located between 0.7 m above the work surface at the line's lowest point and 1.2 m above that surface at its highest point; and

(b) supported by stanchions placed at intervals of not more than 2.5 m;

(c) attached to each stanchion so that pushing on the line between 2 stanchions does not reduce the height of the line between adjacent stanchions by an equivalent amount.

O.C. 606-2014, s. 5.

§2.10. Personal protective equipment

2.10.1. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.1; O.C. 1959-86, s. 11.

2.10.2. In areas where there is danger of contact with moving parts:

(a) clothes shall fit well and have no loose parts;

(b) necklaces, bracelets or rings shall not be worn, except for medical bracelets which shall remain fastened to the wrist; and

(c) long hair shall be tucked under a bonnet in the hat.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.2.

2.10.3. **Protection of head:** Any person on a construction site shall wear a certified safety hat in accordance with CSA Standard Z94.1-M 1977 Industrial Protective Headwear.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.3.

2.10.4. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.4; O.C. 329-94, s. 7.

2.10.5. **Protection of eyes and face:** Every worker must wear protective equipment that complies with the latest version of CAN/CSA Standard Z94.3 Eye and Face Protectors, within 24 months following its last update, when the worker's eyes or face are exposed to

(a) moving particles;

(b) hazardous substances;

(c) intense light or heat radiation;

(d) molten metal;

(e) *(paragraph revoked);*

(f) other risks of the same kind.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.5; O.C, 995-91, s. 3; O.C. 329-94, s. 8; O.C. 393-2011, s. 3.

2.10.6. **Foot protection:** Subject to section 2.1.1, every person on a construction site must wear class 1 protective footwear that complies with CAN/CSA Standard Z-195 Protective Footwear.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.6; O.C. 995-91, s. 4; O.C. 393-2011, s. 4.

2.10.7.1. **Continuous noise:** On a construction site, no worker shall be exposed to continuous sound levels permitted by the table below during a time period longer than the one mentioned.

Sound level (in dBA, corrected dBA or equivalent dBA)	Permitted exposure time* (h/day)
85	16
86	13.9
87	12.1
88	10.6
89	9.2
90	8

91	7
92	6
93	5.3
94	4.6
95	4
96	3.5
97	3
98	2.6
99	2.3
100	2
101	1.75
102	1.50
103	1.3
104	1.2
105	1
106	0.9
107	0.8
108	0.7
109	0.6
110	0.5
111	0.45
112	0.4
113	0.35
114	0.30
115	0.25
> 115	0

* including any continuous exposure or any series of short exposures during a worker's working period.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.7.1.

2.10.7.2. **Continuous noises at different levels:** When a worker is exposed to continuous noises at different levels, the combined effect of these levels shall be estimated:

(a) by adding the following fractions:

$$\frac{C_1}{T_1} + \frac{C_2}{T_2} + \ldots \frac{C_m}{T_m}$$, where C indicates

the total exposure hours at a given level and T indicates the total time of exposure hours permitted by section 2.10.7.1; or

(b) by calculating the equivalent sound level in dBA with a sound level meter, an audio-dosimeter or any other measuring device corresponding to the following formula:

$$Leq = 16.61 \log_{10} \frac{\int_0^T 10^{\frac{L}{16.61}}\,dt}{\int_0^T 10^{0}\,dt}$$

where: L_{eq} = equivalent sound level in dBA

L = instantaneous sound level in dBA

T = total exposure time of the worker, expressed in hours

and by using the level so obtained to apply the table in section 2.10.7.1.

In the case where the evaluation method mentioned in subparagraph *a* of the first paragraph is used, a worker shall not be exposed to a sound level such that the sum of the fractions is higher than unity.

Any exposure of the worker to a sound level lower than 85 dBA shall be excluded from the calculations mentioned in this section.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.7.2.

2.10.7.3. **Impact noises:** On a construction site, the daily exposure of a worker to an impact noise shall not exceed the number in the following table:

Sound level in dB linear peak value	Permitted number of impulses (per 8 hours)
120	10,000
121	7,943
122	6,310
123	5,012
124	3,981
125	3,162
126	2,512
127	1,995
128	1,585
129	1,259
130	1,000
131	794
132	631
133	501
134	398
135	316
136	251
137	200
138	158
139	126
140	100
> 140	0

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.7.3.

2.10.7.4. **Impact noises of different levels:** When a worker is exposed to impact noises of different levels, the combined effect of these levels shall be computed by adding the following fractions:

$$\frac{C_1}{N_1} + \frac{C_2}{N_2} + \ldots\frac{C_m}{N_m},$$

where C indicates the total number of impacts at a specific sound level, and N_m indicates the total number of impacts permitted in accordance with section 2.10.7.3.

For the purposes of this section, the computation shall not include any exposure of a worker to a sound level of less than 120 dB linear peak value.

Where this method of computation is used, a worker shall not be exposed to a sound level so that the sum of the fractions exceeds unity.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.7.4.

2.10.7.5. **Corrective measures:** The employer shall comply with the standards established in sections 2.10.7.1 to 2.10.7.4 by taking the measures indicated below, in the following order:

(a) by reducing the noise at its source;

(b) by isolating any work location exposed to the noise.

When, in taking the measures presented in the first paragraph, the employer cannot comply with the standards prescribed in sections 2.10.7.1 to 2.10.7.4, or until the changes required by the first paragraph are made, the employer shall provide workers with hearing protectors or limit the exposure time of workers as part of an audiometric testing program.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.7.5.

2.10.7.6. **Hearing protectors:** Any hearing protector provided by an employer to a worker in accordance with the second paragraph of section 2.10.7.5 shall reduce the noise so that the worker is no longer exposed to noises exceeding the standards established in sections 2.10.7.1 to 2.10.7.4.

Such a hearing protector must comply with CAN/CSA Standard Z94.2 Hearing Protection Devices, Performance, Selection, Care and Use, applicable at the time of its manufacture.

The hearing protector must be disinfected before being used by another worker.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.7.6; O.C. 329-94, s. 11; O.C. 393-2011, s. 5.

2.10.7.7. **Posting of notices:** When a worker is exposed to noises that exceed the standards established in sections 2.10.7.1 to 2.10.7.4, the employer shall post, near the work location of the worker, a notice indicating that wearing ear protectors is compulsory. If the notice includes characters, the latter shall be at least 30 mm high.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.7.7.

2.10.7.8. **Measuring devices:** For the purposes of this Division, the noise level must be measured with a Type 2 sound level meter for general use or a Type 1 sound level meter for precision purposes, in compliance with one of the following standards, applicable at the time of manufacture of the sound meter:

(1) Sound Level Meters, CSA Standard Z107.1;

(2) Specification for Sound Level Meters, ANSI Standard S1.4A.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.7.8; O.C. 393-2011, s. 6.

2.10.7.9. **Measurement methods:** For the purposes of this Division, noise must be measured in compliance with CSA/CAN Standard Z107.56-94 Procedures for the Measurement of Occupational Noise Exposure.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.7.9; O.C. 393-2011, s. 7.

2.10.8. **Protection of respiratory passages:** The impurities in the air of a work environment shall be eliminated at their emission point so that their concentration is reduced to a level lower than the permissible values indicated in Schedule I to the Regulation respecting occupational health and safety (chapter S-2.1, r. 13).

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.8; O.C. 885-2001, s. 366.

2.10.9. When it is impossible to reduce the concentration of toxic vapours or gases, fumes, dusts or other harmful or toxic substances to a level lower than limits permitted under section 2.10.8, the employer shall provide the worker with the respiratory protective equipment specified in the Guide des appareils de protection respiratoire utilisés au Québec, published by the Institut de recherche Robert-Sauvé en santé et en sécurité du travail.

The apparatuses referred to in the first subparagraph shall, prior to use by another worker, be disinfected in compliance with CSA Standard Z94.4-93 Selection, Use and Care of Respirators.

The employer may not provide self-contained or air-supplied protective breathing apparatus equipped with an automatic device which interrupts or restricts the air supply in the part of the apparatus covering the face.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.9; O.C. 1960-86, s. 1; O.C. 329-94, s. 12; O.C. 885-2001, s. 367.

2.10.10. **Protection of hands:**

(1) Mittens or gloves shall be worn in the handling of sharp-edged objects or objects with abrasive or rough surfaces, or of corrosive, poisonous or other substances which present similar risks.

(2) It is forbidden to wear mittens or gloves in the handling of mechanized apparatus except where there is a risk of frostbite. In such a case they shall:

(a) permit proper manipulation of the apparatus; and

(b) be easily removable.

(3) The worker using a power saw (chain saw) shall wear a safety mitten on the hand holding the upper handle of the saw.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.10.

2.10.11. **Protection of the other parts of the body:**

(1) A worker exposed to molten metal splashings or in contact with hazardous or infectious substances or using dangerous tools shall wear protective equipment such as hood, apron, leg pads and oversleeves.

(2) *(Subparagraph revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.11; O.C. 329-94, s. 13.

2.10.12. **Safety harness:**

(1) A safety harness must comply with CAN/CSA Standard Z259.10 Full Body Harnesses and be secured to an anchorage system, in compliance with section 2.10.15, by a fall arrest connecting device that limits the maximum fall arrest force to 6 kN or the free fall distance to 1.8 m.

This fall arrest connecting device must consist of one or more of the following pieces of equipment, including as a minimum the equipment in subparagraph *a* or *b*:

(a) an energy absorber and a lanyard in compliance with CAN/CSA Standard Z259.11 Energy Absorbers and Lanyards. The lanyard, including the energy absorber, must measure not more than 2 m in length;

(b) a self retracting lanyard in compliance with CAN/CSA Standard Z259.2.2 Self-Retracting Devices for Personal Fall-Arrest Systems;

(c) a rope grab in compliance with CSA Standard Z259.2.5 Fall Arresters and Vertical Lifelines or CSA Standard Z259.2.4 Fall Arresters and Vertical Rigid Rails;

(d) a vertical life line in compliance with CSA Standard Z259.2.5 Fall Arresters and Vertical Lifelines or CSA Standard Z259.2.4 Fall Arresters and Vertical Rigid Rails.

A vertical life line must

(i) be used by only 1 person;

(ii) be shorter than 90 m; and

(iii) never be brought into direct contact with a sharp edge.

(e) a connecting component, such as a spring hook, D-ring or snap hook in compliance with CAN/CSA Standard Z259.12 Connecting Components for Personal Fall Arrest Systems.

(2) A self-locking safety catch is not compulsory on a duckbilled snap hook located at the end of a rope used as a means of positioning by a worker assigned to the assembly of the latticework of reinforcing rods supporting a wall or pillar. In such a case, the rope must be less than 0.4 m long, be made of metal rings and be secured at the other end to the safety harness worn by the worker.

In addition to this means of positioning used by the worker, the employer must take at least one of the measures provided for in subparagraphs 3 and 4 of the second paragraph of section 2.9.1 to ensure the worker's protection.

(3) Where a worker assigned to the erection or checking of power line towers wears a safety harness, the harness must be equipped with one of the following systems:

(a) an energy absorber to which are fastened 2 lanyards, including 1 that must be attached at all times;

(b) an energy absorber to which is fastened 1 lanyard attached by a rope grab to a vertical life line;

(c) a self retracting lanyard equipped with an energy absorber or fastened thereto.

Where the worker moves a life line or the sling of a self retracting lanyard by means of a pole anchor hook, the worker must be attached to the tower only by means of his or her work positioning strap or tether that the worker must fasten to a structural member above him or her.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.12; O.C. 1959-86, s. 12; O.C. 53-90, s. 2; O.C. 995-91, s. 5; O.C. 807-92, s. 3; O.C. 329-94, s. 14; O.C. 35-2001, s. 6; O.C. 606-2014, s. 6.

2.10.13. **Personal floatation device and life jacket:**

(1) Any worker working above or near water must wear an individual floatation device or a life jacket during water transportation aboard an open boat or on the deck of a boat or in the case of a measure provided for in the rescue plan referred to in subparagraph 4 of the first paragraph of section 11.1. The foregoing also applies to a rescue attendant performing a rescue operation on water;

(2) a personal floatation device or a life jacket must

(a) be of the right size;

(b) be designed so as to keep head and face above water;

(c) enable to float without limb effort;

(d) be bright in colour and equipped with reflecting strips visible when in water;

(e) have a minimum floatability of 150 N (33 lbs) that is assured by buoyant materials or by an automatic inflation system activated by immersion;

(f) be approved by Transport Canada or by a body recognized by Transport Canada, as evidenced by the tag or approval stamp affixed to it.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.13; O.C. 329-94, s. 15; O.C. 513-2015, s. 3.

2.10.14. **Safety belt:** Where a worker is equipped with a safety belt, it can be used only to limit the movements of a worker or to keep him in his work position.

Such a belt must comply with CAN/CSA Standard Z259.1 Body Belts and Saddles for Work Positioning and Travel Restraint.

A safety belt shall not be used as individual protective equipment to stop the fall of a worker.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.10.14; O.C. 53-90, s. 3; O.C. 35-2001, s. 7; O.C. 606-2014, s. 7.

2.10.15. **Anchorage system:**

The fall arrest connecting device of a safety harness must be secured to

(1) a single point of anchorage with one of the following characteristics:

(a) a breaking strength of at least 18 kN; or

(b) designed and installed in accordance with an engineer's plan in compliance with CSA Standard Z259.16 Design of Active Fall-Protection Systems, and having one of the following characteristics:

(i) a strength equal to twice the maximum fall arrest force as certified by an engineer; or

(ii) certified in accordance with EN 795 Personal Protective Equipment against Falls - Anchor devices - published by the European Committee for Standardization or with CAN/CSA Standard Z259.15 Anchorage Connectors;

(2) a flexible continuous anchorage system (horizontal life line) with one of the following characteristics:

(a) in compliance with the following minimum standards:

(i) a steel cable of a minimum diameter of 12 mm slackened to a minimum angle of 1 vertical to 12 horizontal, or 5 ° from horizontal;

(ii) a maximum distance of 12 m between the end anchors;

(iii) end anchors with a breaking strength of at least 90 kN;

(iv) not to be used by more than 2 workers at a time;

(b) designed and installed in accordance with an engineer's plan in compliance with CSA Standard Z259.13 Flexible Horizontal Lifeline Systems and CSA Standard Z259.16 Design of Active Fall-Protection Systems;

(3) a rigid continuous anchorage system designed and installed in accordance with an engineer's plan in compliance with CSA Standard Z259.16 Design of Active Fall-Protection Systems.

An anchorage system:

(1) must be designed so that the D-ring of the suspension point of a worker's safety harness cannot be moved horizontally by more than 3 m or an angle of 22 °;

(2) cannot be used by more than 1 person at a time, except in the case of a continuous anchorage system, such as a horizontal life line, or a rigid anchorage system, such as a rail; and

(3) must be designed so that properly attached personal protective equipment cannot be detached involuntarily.

The structure on which the anchorage system is installed must be able to withstand the effort exerted by the anchorage system in addition to the other efforts that it must ordinarily withstand.

An anchorage system with the characteristics described in subparagraph *b* of subparagraph 1 or 2 of the first paragraph, or in subparagraph 3 of that paragraph, must, before it is first brought into service, be inspected and tested by an engineer or a qualified person acting under the supervision of an engineer, to ensure that the system is in compliance with the design and installation plans.

O.C. 606-2014, s. 8.

§2.11. Electrical installations

2.11.1. Any electrical appliance shall be used only for the specific purpose for which it was designed.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.11.1.

2.11.2. No person shall use any electric tool or portable equipment which is not grounded or which is not provided with double insulation.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.11.2.

2.11.3. **Extension cords:** Electrical extension cords supplying energy to any equipment or tools shall:

(a) be suspended at a minimum height of 2.4 m but sufficient to ensure a free passage; or

(b) be protected on the floor in order to avoid any damage to these conductors and to reduce risks of tripping; and

(c) be provided with a third conductor for grounding with the exception of extensions used exclusively for lighting purposes.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.11.3.

2.11.4. Any extension cord not in use shall be disconnected.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.11.4.

2.11.5. The junction and distribution boxes and the outlets shall be closed.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.11.5.

2.11.6. **Switch:** The switch controlling a service entrance, a feeder or a branch circuit shall not be locked in a closed position.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.11.6.

§2.12. Precautions during construction or demolition

2.12.1. Any framework shall be calculated, constructed, placed, supported, wind-braced or guyed to resist any load which could be imposed during construction or demolition.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.12.1.

2.12.2. It is forbidden to leave without protection a wall, a chimney or a structure which could collapse during construction or demolition.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.12.2.

2.12.3. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.12.3; O.C. 391-2011, s. 1.

2.12.4. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.12.4; O.C. 391-2011, s. 1.

2.12.5. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.12.5; O.C. 391-2011, s. 1.

§2.13. Shoring parts

2.13.1. Telescopic steel jacks:

(1) On request, the employer shall provide the inspector with a copy of the drawings and informations concerning the ultimate capacity of the jacks, a table of the recommended capacities and the minimum length of penetration of the telescoping parts. He shall also be required to supply details of the joints of threaded parts used, the minimum lengths of thread engagement, the recommended methods of usage by the manufacturer and any other information that might affect safety.

(2) The calculation of jack capacity is based on the results obtained from tests carried out by an independent expert.

(3) The flanges at the jack extremities shall have a net bearing surface corresponding to the capacity of the jacks and in all instances shall have a minimum bearing surface of at least 100 cm^2 and be at least 6 mm thick and made of material currently used.

(4) The length of the penetration of the top part of the jack into the lower part of the jack shall be at least equal to the sixth of the jack length.

(5) The penetration of the threaded portion in the jack shall be equal to 1.5 times the diameter of the tube.

(6) The manufacturer's name or trade mark, the type of jack and the date of manufacture shall be legibly stamped on all jacks and detachable parts.

(7) The employer shall make sure that the defective parts are replaced by parts of the same quality as the original parts.

(8) The employer shall ensure that tests are made to check the capacity of the welding done on the jacks.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.13.1.

2.13.2. Timber shores:

(1) Rectangular shores shall be at least 89 mm × 89 mm on each side.

(2) Circular shores shall have a minimum diameter of 100 mm.

(3) When shores are spliced end to end, the joint shall be reinforced so as to have the same strength as the shore itself. The joint shall be covered with a piece of the same width as the shore and at least 750 mm in length on 2 adjacent sides of the shore. It is not necessary for the shore parts to be placed end to end when tested assembly clamps are used.

(4) Each part of the spliced shore shall be braced independently in a horizontal manner and, in addition, braced diagonally.

(5) When wedges are used to facilitate the vertical adjustment and removal of shores, they shall be placed on each side of the shore. The vertical space filled by the wedges shall not be greater than the thickness of one wedge.

(6) The timber used for shores shall fulfil the following conditions:

(a) it shall be in good condition, shall be derived from species having long non-breaking fibres and shall be free from any defect that might impair its strength;

(b) it shall be of a quality equal to No. 1 spruce;

(c) if it is in the form of logs, it shall be debarked;

(d) it shall not be covered with paint or any opaque coating.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.13.2; O.C. 329-94, s. 16.

2.13.3. Scaffold shoring: The resistance of the materials making up the scaffold shorings and the support surface of the parts of these scaffolds shall be in accordance with Subdivisions 6.4 and 6.5.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.13.3.

2.13.3.1. All the extensible parts of a scaffold shoring, including adjustment screws, shall comply with one of the following requirements:

(a) bear a mark indicating that, beyond that mark, they are extended beyond the manufacturer's requirements;

(b) be equipped with a locking device that prevents their extension beyond the manufacturer's requirements.

A table of the allowable loads and corresponding extension heights shall be available on the construction site premises.

O.C. 1413-98, s. 6.

§2.14. Damaged buildings

2.14.1. Where a building or structure has been damaged in such a way that it might collapse, totally or partially:

(a) it shall be progressively propped or shored up so as to ensure the safety of persons; or

(b) any other equivalent safety measure shall be taken until the building or structure is demolished, dismantled or repaired.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.14.1; O.C. 329-94, s. 17.

§2.15. Hoisting apparatus

2.15.1. Hoisting apparatus and their accessories shall be:

(a) of safe construction and offering the required strength;

(b) maintained in good working order;

(c) equipped with warning devices when the transportation is motorized; and

(d) equipped with hoisting brakes so designed and installed as to stop a load of 1.5 times the rated load.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.1.

2.15.2. Posting of the rated load: The rated load shall be posted in a conspicuous place on a hoisting apparatus.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.2.

2.15.3. The employer shall ensure that the hoisting apparatus is not:

(a) loaded beyond the rated load; and

(b) submitted to sudden movements.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.3.

2.15.4. Boom: The boom of a hoisting apparatus not covered by CSA Standard Z150-1974 Safety Code for Mobile Cranes and its supplement No. 1-1977 or CSA Standard Z248-1975 Code for Tower Cranes shall be installed and built according to the specifications approved by an engineer.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.4.

2.15.5. Load-rating plate: A load-rating plate showing the nominal capacity of the tower crane, mobile crane or other similar apparatus shall:

(a) be so placed and lighted as to be easily read by the operator;

(b) provide information which complies with that provided by the manufacturer; and

(c) furnish all the necessary information for the safe operation of this equipment.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.5.

2.15.6. Handling of loads:

(1) Before ordering the hoisting of a load, the signalman shall ensure that all cables, chains, slings or other moorings are properly attached to the load and that the hoisting does not present any hazard.

(2) The hoisting of loads shall be done vertically.

(3) When oblique hoisting is absolutely necessary, precautions dictated by the circumstances shall be taken, and this operation shall be performed in the presence of a representative of the employer.

(4) If the safety of any person is threatened by the uncontrolled movement or the swinging of a raised load, one or more guide ropes shall be used.

(5) *(Subsection revoked).*

(6) The crane operator shall not allow a worker to stand on a load, a hook or a sling suspended to a hoisting apparatus.

(7) Hooks used for hoisting loads and hooks attached to slings shall be equipped with a safety catch.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.6; O.C. 53-90, s. 4; O.C. 329-94, s. 18; O.C. 35-2001, s. 8.

2.15.7.1. All site elevators must conform to CSA Standard Z185-1975 Safety Code for Personnel Hoists.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.7.1.

2.15.7.2. A mobile crane shall conform to CSA Standard Z150-1974 Safety Code for Mobile Cranes and its supplement No. 1-1977, with the exception of section 4.3.2.5.

A mobile crane log book shall be kept up-to-date in accordance with that standard and shall comply with Schedule 9.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.7.2; O.C. 1413-98, s. 7; O.C. 35-2001, s. 9.

2.15.7.2.1. Two-blocking situation protection device:

(1) Any mobile crane with a telescopic boom shall be equipped with a device designed to warn the operator that a two-blocking situation is about to occur, by means of warning lights and buzzer or an apparatus that stops the equipment. The protection device must be of the fail-safe design.

(2) A cable mobile crane must be equipped with a protective device complying with the device described in paragraph 1. Depending on the date on which the crane was manufactured, the device must be installed not later than:

Date on which the crane was manufactured	**Final date on which the protection device must be installed**
As of the date of coming into force of this Regulation	At the time it was manufactured
From 1 January 1995 to the day preceding the date of coming into force of this Regulation	On the date of coming into force of this Regulation
From 1 January 1990 to 31 December 1994	31 December 2001
From 1 January 1985 to 31 December 1989	31 December 2002
From 1 January 1980 to 31 December 1984	31 December 2003
From 1 January 1975 to 31 December 1979	31 December 2004
From 1 January 1970 to 31 December 1974	31 December 2005
Before 1 January 1970	31 December 2006.

(3) This section does not apply to a cable mobile crane equipped with a shovel, a dragging bucket, a clamshell bucket or a pile hammer and that is used for purposes other than the hoisting of loads and to a cable mobile crane that is used to carry out the following foundation work, including all handling work required to that end: pile driving, installation of drilled or excavated caissons, installation of sheet-piling, setting up of shoring devices, below-grade work, drilling of tie rods or anchors and ground improvement techniques such as dynamic compacting and vibroflotation.

O.C. 53-90, s. 5; O.C. 35-2001, s. 10.

2.15.7.2.2. Overload protection device:

(1) Any mobile crane used for hoisting loads must be equipped with one of the following overload protection devices: a rated capacity limiter, a load moment system or a load indicating device. Depending on the date on which the crane was manufactured, the load indicating device must be installed not later than:

Date on which the crane was manufactured	Final date on which the load indicating device must be installed
From 1 January 1980 to 31 December 2004	31 December 2005
From 1 January 1975 to 31 December 1979	31 December 2010.

(2) Any mobile crane manufactured on or after 1 January 2005 must be equipped with a load indicating device or a load moment system. The devices must be of the fail-safe design.

(3) Load indicating devices and load moment systems may be equipped with a function allowing them to be bypassed.

(4) Load indicating devices must comply with Standard SAEJ376 APR85 Load Indicating Devices on Lifting Crane Service.

(5) Rated capacity limiters and load moment systems must comply with Standard SAEJ159 APR94 Load Moment System.

(6) This section does not apply to a cable mobile crane equipped with a shovel, a dragging bucket, a clamshell bucket or a pile hammer and that is used for purposes other than the hoisting of loads and to a cable mobile crane that is used to carry out the following foundation work, including all handling work required to that end: pile driving, installation of drilled or excavated caissons, installation of sheet-piling, setting up of shoring devices, below-grade work, drilling of tie rods or anchors and ground improvement techniques such as dynamic compacting and vibroflotation.

(7) In this section,

“load indicating device” means a device that measures and displays to the crane operator's sight the weight of the load hoisted by the crane; (*dispositif indicateur de charge*)

“load moment system” means a device that gathers information relating to the load hoisted by the crane and that transmits signals warning the operator that the crane is nearing its limiting conditions; (*contrôleur d'état de charge*)

“rated capacity limiter” means a system that prevents a crane from hoisting and moving a load higher than its limiting conditions and that consists of a load moment system and a device acting on the movements of the crane so that they do not exceed the load rating chart of the crane. (*dispositif limitateur de charge*)

O.C. 35-2001, s. 10.

2.15.7.3. A mobile crane with a luffing boom transformed and used for purposes other than the hoisting of loads such as a shovel, a dragging bucket, a clamshell bucket or a pile hammer shall be equipped with:

(a) bumpers or boom stops; and

(b) a high boom angle switch.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.7.3.

2.15.7.4. A tower crane shall conform to CSA Standard Z248-1975 Code for Tower Cranes.

A tower crane log book shall be kept up-to-date in accordance with that standard and shall comply with Schedule 10.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.7.4; O.C. 1413-98, s. 8.

2.15.7.5. A general purpose top running electric overhead travelling crane, except a single girder overhead travelling crane, must conform to CSA Standard B-167-1964 General Purpose Electric Overhead Travelling Cranes.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.7.5; O.C. 1959-86, s. 13.

2.15.7.6. A lift truck shall conform to CSA Standard B335.1-1977 Low Lift and High Lift Trucks.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.7.6.

2.15.7.7. A digger derrick manufactured after 1 January 1987 shall comply with ANSI Standard A10.31-1987 Digger Derricks - Safety Requirements, Definitions and Specifications.

It is prohibited to use a digger derrick for purposes other than the purposes for which it was specifically designed and especially to use it to hoist materials.

For the purposes of this section, a digger derrick is an apparatus equipped with a knuckle-boom, mounted on a carrier vehicle and designed specifically to drill holes into the ground and to install posts therein and the material they support.

O.C. 1413-98, s. 9.

2.15.8. (1) The rated capacity of a lifting jack shall be indicated in a legible and indelible manner.

(2) Any lifting jack shall be equipped with a positive stop to prevent overstop or with a stop indicator in order to determine the limit of travel.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.8; O.C. 329-94, s. 19.

2.15.9. Hoisting apparatus shall be assembled, maintained and dismantled under the supervision of experienced workers and in accordance with the manufacturer's recommendations.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.9.

2.15.10. Minimum age: No work performed by means of a motorized hoisting apparatus may be performed by a worker under 18 years of age.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.15.10; O.C. 329-94, s. 20.

§2.16. Piles, sheet-piling

2.16.1. **Handling:** Piles and sheet-piling shall at all times be firmly held up with a device other than the hand of the worker, during their installation and removal.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.16.1.

2.16.2. **Handling area:** No worker who is not assigned to the handling of piles and sheet-piling shall be in that area.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.16.2; O.C. 329-94, s. 21.

2.16.3. **Pile hammer:** When not in use, any pile hammer shall not be kept in a raised position.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.16.3.

2.16.4. **Pile heads:** Any pile head, before being driven in, shall be:

(a) cut at right angle; and

(b) free from debris, bark or chips.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.16.4.

2.17 *(Revoked)*

R.R.Q., 1981, c. S-2.1, r. 6, sec. II, ss. 2.17; O.C. 329-94, s. 23.

2.17.1. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.17.1; O.C. 329-94, s. 23.

§2.18. Transportation of workers

2.18.1. Any motor vehicle used for the transportation of workers must conform to any provision of the Highway Safety Code (chapter C-24.2) in the same way as any vehicle used on a public highway.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.18.1; O.C. 1959-86, s. 14.

2.18.2. **Vehicle driver:** The employer shall make sure that the driver of the vehicle used for the transportation of workers:

(a) has the permit required by the Highway Safety Code (chapter C-24.2);

(b) informs the person concerned of all defects of his vehicle; and

(c) does not transport anyone if the reported defects have not been repaired, or if he judges that his vehicle does not offer all the safety guarantees.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.18.2; O.C. 1959-86, s. 15.

2.18.3. The employer shall ensure that any transported worker:

(a) is seated on seats or benches at his disposal during transportation, except in the case of motor vehicles specially equipped for the transportation of persons standing up; and

(b) boards or gets out of the vehicle only when the latter is completely stopped, and uses the boarding devices that are at his disposal.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.18.3.

2.18.4. **Vehicle arrangement:**

(1) Any motor vehicle primarily or regularly used for the transportation of workers shall:

(a) be provided with handholds, steps and other accessories so placed and arranged that the workers can safely get in or out of the vehicle;

(b) be provided with a device by which passengers can communicate with the driver, when the driver's compartment is separated from the passengers' compartment;

(c) never transport a number of passengers that may jeopardize the safe driving of the vehicle or the safety of passengers; and

(d) have the floor and the interior space reserved for passengers, in good condition and free from nails, screws, splinters, and other objects likely to be injurious to passengers.

(2) Trucks and buses primarily or regularly used for the transportation of workers shall be:

(a) constructed and accommodated for that purpose;

(b) provided with seats or benches firmly secured in place;

(c) covered with a roof and protected on the sides with solid walls having a minimum height of 1.2 m;

(d) provided with 2 Bengal flares or 2 flashing lights. In case of a break-down on the road or within 3 m of the road, one of these devices shall be placed 30 m in front of the vehicle and the other one 30 m behind;

(e) provided with a portable fire extinguisher in compliance with section 3.4.4 of this Code. The driver shall have the necessary knowledge concerning the type of fire extinguisher with which the trucks and buses are equipped and how it is operated;

(f) provided with a first-aid kit in the driver's compartment.

(3) Trucks primarily or regularly used for the transport of the workers shall be provided with seats or benches offering the following characteristics:

(a) a minimum width of 450 mm for each passenger;

(b) so placed as to allow for a longitudinal aisle at least 600 mm when the seats are facing each other and 300 mm wide in other cases;

(c) have a height between 380 mm and 480 mm above the floor;

(d) have a minimum depth of 300 mm; and

(e) provided with backrests extending to a height of at least 500 mm above the level of the seats or benches if these are not placed near the truck-rack or walls.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.18.4; O.C. 329-94, s. 24.

2.18.5. **Special provisions:**

(1) Flat-bed trucks and pickups, occasionally used for the transportation of workers can be put into service, if the following conditions are observed:

(a) space allowing, workers shall ride in the driver's compartment and there shall not be more than 3 persons for a single cab;

(b) flat-bed trucks shall be protected on their sides with racks or walls having a minimum height of 900 mm;

(c) workers shall sit on benches placed near the sides of the platform and firmly fitted to the floor, and having a height between 380 mm and 480 mm;

(d) tailgates shall be kept closed while travelling; and

(e) the truck shall be equipped with a tarpaulin to protect workers against bad weather.

(2) Any truck with a closed body, used for the transportation of workers, shall have:

(a) the floor of the workers' compartment airtight so as to prevent intoxication by exhaust gases;

(b) the tailpipe extended beyond the end of the body;

(c) openings specially arranged to allow natural ventilation and lighting of the vehicle for daytime driving; and

(d) artificial lighting inside the workers' compartment for night time driving.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.18.5.

2.18.6. **Prohibited transportation:** Transportation of persons is forbidden in trailers and semi-trailers.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.18.6.

2.18.7. **Simultaneous transportation of workers and materials:**

(1) Vehicles used for the transportation of workers shall not carry dangerous pesticides and flammable substances, unless these substances are carried in receivers designed for this purpose and outside the compartments occupied by the drivers or passengers.

(2) All sharp tools carried in the driver's or the passengers' compartment shall be:

(a) placed in boxes or covered containers; or

(b) protected by scabbards covering the sharp edge and secured to the body of the vehicle outside of the aisles.

(3) It is permitted to carry simultaneously in the same compartment, the workers, and:

(a) small materials, as long as a stowing device prevents any movement of materials likely to injure the passengers;

(b) bulk material, if a safe device prevents this material from filling the place reserved for passengers.

(4) No worker shall ride on a vehicle load while the vehicle is moving.

R.R.Q., 1981, c. S-2.1, r. 6, s. 2.18.7.

§2.19. Prohibited work method and technique

O.C. 995-91, s. 6.

2.19.1. It is prohibited to use a liquified gas to freeze a water pipe unless the gas is physiologically inert and nonflammable.

O.C. 995-91, s. 6; O.C. 1413-98, s. 10.

2.19.2. When freezing a water pipe in a trench or in an obstructed space by using a liquified, physiologically inert and nonflammable gas, the following measures shall be taken:

(a) the trench or the obstructed space shall be ventilated by an exhaust ventilation system so that the concentration of oxygen in the air is at all times equal to or greater than 19.5% at the place occupied by the worker to carry out his work;

(b) a device to measure the concentration of oxygen in the air shall be available on the work site at all times.

For the purposes of this section, an obstructed space is a space marked off by a wall, a partition wall, a ceiling or any other physical obstacle where the circulation of air with the outside is insufficient to maintain a percentage of oxygen in the obstructed space equal to or greater than 19.5% in air volume.

O.C. 1413-98, s. 10.

2.19.3. A worker freezing a water pipe shall wear mittens or gloves as a protection against chilblain.

O.C. 1413-98, s. 10.

DIVISION III
CONSTRUCTION SITES

§3.1. Access to construction site

R.R.Q., 1981, c. S-2.1, r. 6, sec. III, ss. 3.3; O.C. 329-94, s. 29.

3.1.1. Access to the construction site shall be at all times limited to personnel authorized by the site head.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.3.1; O.C. 329-94, s. 29.

§3.2. Housekeeping of site

R.R.Q., 1981, c. S-2.1, r. 6, sec. III, ss. 3.1; O.C. 329-94, s. 29.

3.2.1. Any construction site, including all means of access or egress, shall be kept in a tidy condition and no hazard shall be allowed to develop from the storage of material or equipment, the accumulation of waste or the condition of any material or piece of equipment.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.1.1; O.C. 329-94, s. 29.

3.2.2. Waste material:

(1) Waste material shall never be thrown from one level to another.

(2) Waste material shall be cleared away progressively:

(a) by means of appropriate containers;

(b) by an inclined or vertical chute emptying into a truck box, a container or an enclosure off limits to workers and strictly reserved for motorized equipment. The box, container or enclosure shall be large enough to hold all waste material emptied into it.

The chute shall:

(i) be enclosed if inclined more than 45º;

(ii) be closed at its entrance when not in use; and

(iii) have a stop-block at its entrance to stop wheelbarrows; or

(c) by means of a hoisting apparatus, if large pieces or objects are involved.

(3) *(Subsection revoked).*

(4) Waste material shall be transported or so disposed as to create no inconvenience.

(5) Lumber, brick, blocks, stone, steel and other salvaged materials shall be stacked in an orderly fashion and in accordance with the rules of the trade.

(6) *(Subsection revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.1.2; O.C. 53-90, s. 6; O.C. 329-94, s. 25.and 29.

3.2.3. Protruding nails and other protruding parts:

(1) Nails protruding from a piece of wood or any scrap shall be pulled out or nailed down unless such material is piled or placed in a container to be transported outside the site.

(2) During dismantling, protruding nails from a reusable piece of wood shall be removed immediately.

(3) The tie rods for concrete formwork and other protruding parts shall be cut away as soon as possible after the deforming.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.1.3; O.C. 329-94, s. 26 and 29.

3.2.4. Maintenance and arrangement of the work site: Traffic lanes, passages and any work site in general shall:

(a) be kept free of any obstacle and well-cleared;

(b) be kept free of all snow, ice, oil or grease;

(c) be sprinkled with sand or any other non-skid product in order to prevent slipping and falling;

(d) not be obstructed with equipment, tools or material;

(e) not be cluttered with waste products from a mechanical tool;

(f) be illuminated in conformity with CSA Standard C92.1-1975 Industrial Lighting;

(g) have a minimum width of 600 mm between machines, installations or piles of materials or goods. This width shall be increased according to the danger present or the size of the parts to be handled;

(h) *(paragraph revoked);*

(i) have no opening at floor or roof level, unless the opening is surrounded by guard-rails or closed by a load resistant cover for any loads to which it may be subjected, but not less than 2.4 kN/m^2. If the cover or guard-rails interfere with the carrying out of the work, the cover or the guard-rails may be removed and replaced, for the duration of the work, by installing a continuous barrier or trestles of a minimum height of 0.7 m, at a distance varying between 0.9 m and 1.2 m from the opening, or a warning line complying with the requirements in section 2.9.4.1.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.1.4; O.C. 329-94, ss. 27 and 29; O.C. 1413-98, s. 11; O.C. 35-2001, s. 11; O.C. 606-2014, s. 9.

3.2.5. Hazard signs: A danger zone shall be marked off by hazard signs:

(a) below an outrigger scaffolding, a suspended scaffolding or a boatswain's chair; and

(b) at any place where a mobile crane, concrete pump, derrick, jib crane, derrick crane, mechanically raised aerial platform apparatus or an aerial basket is used.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.1.5; O.C. 995-91, s. 7; O.C. 329-94, s. 29; O.C. 1413-98, s. 12.

3.2.6. Drinking water:

(1) The employer shall supply his workers with drinking water by putting water fountains or clean individual cups and a sufficient supply of water at their disposal.

(2) If the water does not come from a municipal aqueduct, it shall be analysed at the beginning of the works and every 3 months thereafter.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.1.6; O.C. 329-94, s. 29.

3.2.7. Toilets: As of the first day of work, a toilet must be placed at the disposal of workers. If 25 or more workers are to occupy the site at the same time, a flushing toilet must be placed at their disposal, even if all the workers are not yet present on site. If there never will be more than 24 workers on site, a chemical toilet may be at their

disposal.

One toilet is provided per group of 30 workers or fewer.

If a flushing toilet is not connected to a waterworks or sewer system in accordance with the Construction Code (chapter B-1.1, r. 2), it must collect the waste in a tank to process the waste chemically and be built in accordance with the standard Sanitation - Nonsewered Waste - Disposal Systems - Minimum requirements, ANSI Z4.3-1995 (R. 2005), published by the American National Standards Institute.

The obligation to place a toilet at the disposal of workers is met if the workers are authorized to use the sanitary facilities of an establishment located at a distance that complies with section 3.2.7.1

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.1.7; O.C. 329-94, s. 28.and 29; O.C. 428-2015, s. 3.

3.2.7.1. Toilets must be located at a distance not exceeding 150 m (500 ft.) from the work area and must not be more than 4 storeys higher or lower than the work area.

O.C. 428-2015, s. 3.

3.2.7.2. A toilet must be

(1) within easy access;

(2) free from any obstacle or obstruction that could prevent the toilet from being used;

(3) built so that the occupant is sheltered from view and protected from the weather and falling objects;

(4) provided with natural or artificial lighting;

(5) equipped with a seat and cover;

(6) provided with toilet paper;

(7) heated to a minimum of 20 °C; and

(8) ventilated.

The toilet must be maintained in good operating condition and in a clean and sanitary condition and be kept free of vermin, rodents and insects.

Any cracked or damaged toilet seat must be replaced immediately.

O.C. 428-2015, s. 3.

3.2.8. **Sinks:** The employer shall provide the workers who handle corrosive or toxic materials with sinks or showers that comply with section 3.2.15 and that enable them to wash with clean water, and likewise provide them with paper towels or individual hand towels.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.1.8; O.C. 329-94, s. 29; O.C. 393-2011, s. 8.

3.2.8.1. **Flushing toilet accessories:** A sink containing clean and temperate water must be placed at the disposal of workers for each flushing toilet. The sink must be maintained in good operating condition and in a clean and sanitary condition and the following products must be placed at the disposal of workers:

(a) soap or another cleansing agent;

(b) a hand dryer, roller towels or paper towels;

(c) where paper towels are used, waste paper baskets for their disposal.

A notice indicating that the water is not suitable as drinking water must be displayed so that it is visible to workers, where applicable.

O.C. 428-2015, s. 4.

3.2.9. **Lunch room:** On any work site where there are 10 or more workers and where the work lasts more than 7 days, the employer must make a room available to the workers where they may take their meals. The room must

(a) not have any dimension of less than 2.3 m;

(b) have 1.1 m^2 of floor area per person who eats in the room;

(c) be heated to a minimum of 20 °C;

(d) be properly ventilated and lighted and prohibited to smoking;

(e) be provided with hooks for clothing;

(f) be furnished with sufficient tables and chairs for the number of workers who may eat there at the same time;

(g) be supplied with covered recipients for waste; and

(h) be maintained in good, clean and sanitary condition.

The room must not serve for the storage of materials, equipment or tools.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.1.9; O.C. 329-94, s. 29; O.C. 428-2015, s. 5.

3.2.10. **Changing room:** The employer must provide a changing room to workers working in an underground work site or to those who must wear specific clothing, used exclusively for

(1) abrasive blasting;

(2) work liable to produce asbestos dust emissions where moderate-risk work is carried out in accordance with paragraph 2 of section 3.23.2;

(3) work carried out in heat stress that exceeds the continuous work curve in the “Permissible heat exposure limit values” graph in Schedule V to the Regulation respecting occupational health and safety (chapter S-2.1, r. 13); and

(4) work carried out in compressed air.

O.C. 393-2011, s. 9.

3.2.11. **Changing room features:** The changing room referred to in section 3.2.10 must be in an area separate from the work area, have a minimum level of illumination of 250 lux and be maintained at a minimum temperature of 20 °C, be provided with drinking water, installations to dry work clothes and individual lockers to store clothes. In addition, the storage space of each locker must be at least 0.14 m^3 and there must be a clearance of at least 600 mm in front of each row of lockers.

O.C. 393-2011, s. 9.

3.2.12. **Double changing room:** The employer must provide workers with a changing room for street clothes and another one for work clothes, between which a shower room is set up so that workers may shower before wearing their street clothes,

(1) for work liable to produce asbestos dust emissions where high-risk work is carried out according to paragraph 3 of section 3.23.2; or

(2) where workers are exposed to lead, mercury or beryllium or their compounds, in the form of vapour or dust.

O.C. 393-2011, s. 9.

3.2.13. **Layout of the facilities:** The facilities referred to in section 3.2.12 must be contiguous to the work area, each changing room and the shower room must be in separate, communicating rooms used exclusively for the purposes referred to in section 3.2.12. The changing rooms must comply with section 3.2.11 and the showers with section 3.2.15.

O.C. 393-2011, s. 9.

3.2.14. **Showers:** The employer must provide showers to workers working in an underground work site or to those who must wear specific clothing, used exclusively for

(1) abrasive blasting;

(2) work liable to produce asbestos dust emissions where high-risk work is carried out in accordance with paragraph 3 of section 3.23.2;

(3) work where workers are exposed to lead, mercury or beryllium or their compounds, in the form of vapour or dust;

(4) work carried out in heat stress that exceeds the continuous work curve in the “Permissible heat exposure limit values” graph in Schedule V to the Regulation respecting occupational health and safety (chapter S-2.1, r. 13); and

(5) work carried out in compressed air.

O.C. 393-2011, s. 9.

3.2.15. **Shower features:** The showers referred to in section 3.2.14 must be installed separately for each sex, not less than 1 shower per 10 workers or fewer of each sex, in rooms that are maintained at a minimum temperature of 20 °C and that have a minimum level of illumination of 250 lux. They must be supplied with temperature controlled potable water, be provided with soap, individual towels and hand towels, and be cleaned and disinfected at least once per shift, when they have been used.

O.C. 393-2011, s. 9.

§3.3. Temporary structures

R.R.Q., 1981, c. S-2.1, r. 6, sec. III, ss. 3.2; O.C. 329-94, s. 28.

3.3.1. Ramps, platforms, runways, scaffolding, and other temporary structures shall be designed and constructed according to recognized methods so as to avoid any risk of collapse or any other danger of accident.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.2.1; O.C. 329-94, s. 29.

3.3.2. Any temporary structure shall be sufficiently braced in order to withstand all loads that might be applied during construction, restoration or demolition.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.2.2; O.C. 329-94, s. 29.

3.3.3. Any temporary structure constructed to support part of a permanent structure until this structure is self-supporting, shall be designed, constructed, supported and braced to withstand all loads which might be applied.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.2.3; O.C. 329-94, s. 29.

3.3.4. No change which might affect the structure of a building shall be undertaken before ensuring that the constituent elements will not be submitted to stresses higher than those prescribed.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.2.4; O.C. 329-94, s. 29.

3.3.5. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.2.5; O.C. 1959-86, s. 16; O.C. 329-94, s. 29; O.C. 119-2008, s. 4.

§3.4. Fire protection

3.4.1. Fire hoses equipped with nozzles, portable fire extinguishers, automatic sprinkler valves, hydrants and all fire fighting equipment shall be:

(a) certified;

(b) easily accessible;

(c) located at suitably marked stations;

(d) protected from mechanical damage;

(e) maintained in good operating condition;

(f) protected from freezing; and

(g) accessible to firemen at all times.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.4.1; O.C. 329-94, s. 30.

3.4.2. Where a standpipe system with valves equipped with hoses and nozzles, an automatic water extinguisher system or a combined system is installed in a building, a standpipe system with valves equipped with hoses and nozzles shall be installed progressively within 2 stories of the highest storey under construction.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.4.2; O.C. 53-90, s. 7.

3.4.3. **Portable fire extinguishers:** Portable fire extinguishers shall be placed:

(a) in any workshop;

(b) in any storage building for combustible materials or flammable liquids;

(c) in places where welding or cutting operations with a torch are being carried on and for a reasonable time thereafter;

(d) where temporary oil or gas-fired heat generators are used;

(e) during the use of a tar or asphalt kettle;

(f) during the storage or handling of flammable liquids; and

(g) near the exits on each storey having a floor area of 500 m^2 or less in a building where construction works are in progress, and an additional portable fire extinguisher for each additional 500 m^2 of floor area or any fraction thereof.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.4.3; O.C. 329-94, s. 31.

3.4.4. In addition to the standards prescribed in section 3.4.1, portable fire extinguishers shall:

(1) be of type ABC approved by Underwriters' Laboratories of Canada (ULC);

(2) be loaded;

(3) comply with:

(a) NFPA Standard 10-1975 Portable Fire Extinguishers, where the extinguishers are manufactured before 1 January 1989; or

(b) NFPA Standard 10-1988 Portable Fire Extinguishers, where the extinguishers are manufactured on or after 1 January 1989;

(4) bear the name of the person responsible for their maintenance and indicate the date of the most recent inspection;

(5) be easily accessible.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.4.4; O.C. 329-94, s. 32.

3.4.5. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.4.5; O.C. 329-94, s. 33.

3.4.6. If the building is provided with a water supply system of at least 300 litres per minute under a minimum pressure of 80 kPa at the highest point, hoses equipped with nozzles may replace the portable water extinguishers. The minimum hose diameter shall be 19 mm and the nozzle shall be of the spray type with a minimum opening of 10 mm.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.4.6.

§3.5. Ladders and step-ladders

3.5.1. When there are no stairways, ramps, passages or mechanical equipment designed for the hoisting of persons, ladders shall be used to gain access to a work area.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.5.1; O.C. 329-94, s. 34.

3.5.2. A ladder shall:

(a) be designed, built, maintained and used so as not to endanger the safety of workers;

(b) always be used in such a way that the loads applied do not cause any part of the ladder to be stressed beyond allowed stresses; and

(c) be suitable for the type of work to be performed, with regard to its type as well as to its length and accessories.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.5.2.

3.5.3. **Commercial ladders:** The employer shall ensure that any commercially manufactured ladder that he uses complies with CAN3-Z11-M81 Portable Ladders, except to the extent that the standard is modified by this subdivision.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.5.3; O.C. 329-94, s. 35.

3.5.4. **Site-fabricated ladders:**

(1) Any site-fabricated ladder shall have:

(a) a maximum length of 4.8 m, measured along the side rails;

(b) a maximum spacing of 400 mm between the side rails, unless the site where the ladder is used precludes this. In such a case, the width of the ladder may be reduced accordingly;

(c) a maximum spacing of 300 mm between the cleats. Such spacing shall be uniform within a flight.

(2) Any wooden ladder must have:

(a) 2 side rails of at least:

(i) 38 mm × 89 mm for single ladders; or

(ii) 38 mm × 140 mm or 89 mm × 89 mm for double-width ladders;

(b) cleats:

(i) of not less than 38 mm × 89 mm; and

(ii) resting on filler blocks of not less than 38 mm × 38 mm.

(3) Any double-width ladder shall:

(a) have 3 rails evenly spaced;

(b) be at least 1.5 m in width and not more than 2 m in width;

(c) have cleats in one piece that extend the full width of the ladder;

(d) be made of materials whose size is corresponding to those listed in subsections 1 and 2; and

(e) be solidly fastened in place.

(4) The wood used for a ladder shall fulfil the following conditions:

(a) it shall be in good condition, shall be derived from species having long non-breaking fibres and shall be free from any defect that might impair its strength;

(b) it shall be of a quality equal to No. 1 spruce;

(c) if it is in the form of logs, it shall be debarked;

(d) it shall not be covered with paint or any opaque coating.

(5) Where it is foreseen that a site-fabricated ladder will exceed the permitted maximum length of 4.8 m, the ladder must be designed by an engineer, as attested to by a plan or certificate signed and sealed by the engineer.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.5.4; O.C. 329-94, s. 36; O.C. 606-2014, s. 10.

3.5.5. The maximum length of an extension ladder having 2 or more sections shall be 15 m, measured along the side rails.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.5.5; O.C. 329-94, s. 37.

3.5.6. **Ladder utilization:** Any ladder shall:

(a) rest on a firm footing and the top shall be propped on its 2-side rails;

(b) be firmly held in place by one or more persons if it is not permanently fastened and if its length is equal to or superior to 9 m;

(c) be protected against any jolt or sliding which might upset it;

(d) when not permanently fastened, be so inclined, in compliance with Schedule 0.1, that the horizontal distance between the base of the ladder and the vertical plane of its top support is approximately between 1/4 and 1/3 of the length of the ladder between its supports;

(e) if used as a means of access:

(i) be securely fastened in place;

(ii) extend at least 900 mm above the upper landing; and

(iii) have a minimum clear space of 150 mm below any rung;

(f) be so placed that there is adequate free space at the bottom of the ladder;

(g) *(paragraph revoked);*

(h) not be lashed to another ladder end to end;

(i) if installed in a continuous vertical position, except ladders permanently installed with hoop protection:

(i) have rest platforms with handrails, at intervals not greater than 6 m; and

(ii) be off-centre at each platform to ensure protection for the upper part;

(j) not be used near an exposed electrical circuit when it is made of metal or is metal-reinforced;

(k) be of a length sufficient to allow a person to work without having to use the top 2 rungs; and

(l) be lifted and lowered by the user in such a way that he faces it.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.5.6; O.C. 329-94, s. 38.

3.5.6.1. Notwithstanding section 3.6.1, a ladder may be used in an elevator shaft or hoistway to temporarily serve one of the 2 means of egrees provided for in that section, for a maximum height of 2 storeys.

In addition, the ladder may be used upon the following conditions:

(a) the elevator or the hoist shall not be in the process of being installed;

(b) the opening of the shaft at the level of the first landing shall be completely closed;

(c) the opening of the second landing shall allow only the free passage of persons;

(d) the ladder shall cover the opening of the second landing so as to prevent persons from falling;

(e) the ladder shall be built as work progresses, but without adversely affecting construction work.

O.C. 329-94, s. 39.

3.5.7. **Step-ladder:** If the worker uses a step-ladder the employer shall make sure:

(a) that it complies with CAN3-Z11-M81 Portable Ladders, except to the extent that the standard is modified by this subdivision;

(b) that it is not used near an exposed electrical circuit when it is made of metal or is metal-reinforced;

(c) that its legs are fully spread and that the retaining device is locked; and

(d) that the top and the rest are not used as a step.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.5.7; O.C. 329-94, s. 40.

3.5.8. As long as the permanent or temporary stairways are not finished or ready to be used, ladders shall be utilized and kept in good condition.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.5.8.

3.5.9. Ladders shall:

(a) be set aside until repaired, when one of their parts is broken or defective;

(b) not be repaired by using splice-pieces or binding; and

(c) be stored away and protected against bad weather in a dry place.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.5.9.

§3.6. Stairs

3.6.1. Any building under construction shall be provided with 2 means of egress by means of permanent or temporary stairs which shall:

(a) be built for the entire height from the ground or underground to the working level as soon as the work has attained a height of 2 storeys or 6 m above ground;

(b) be extended as work progresses without adversely affecting construction work;

(c) never be extended at less than 2 storeys from the upper working level; and

(d) be built of steps with a depth more than 150 mm.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.6.1.

3.6.2. Construction:

(1) Stairs and landings shall be designed and constructed to safely support a live load of 4.8 kN/m^2.

(2) Stairs shall have:

(a) uniform treads and risers in any one flight;

(b) a vertical distance between landings or floors not exceeding 3.6 m;

(c) an angle of rise not exceeding 50º from the horizontal; and

(d) guardrails in accordance with Subdivision 3.8 and securely fastened and supported on the open sides of the stairs and landings.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.6.2.

3.6.3. Steel frame stairs: In addition to the requirements of section 3.6.2, skeleton steel stairs shall have temporary treads and landings:

(a) of contiguous planking extending the full width and breadth of these elements; and

(b) be securely fastened in place.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.6.3.

3.6.4. Temporary stairs:

(1) Outside of buildings, temporary stairs shall have:

(a) steps with a width of at least 500 mm;

(b) a maximum slope of 55º;

(c) landings with a depth of at least 500 mm;

(d) a handrail; and

(e) uniform steps in the same flight.

(2) Inside buildings, temporary stairs shall have a width of at least 750 mm or at least equal to that of the permanent stairs to be installed.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.6.4.

§3.7. Temporary ramps, runways and platforms

3.7.1. Temporary ramps, runways and platforms, other than scaffolding platforms, shall:

(a) be designed, constructed and maintained to safely support loads that may be applied to them;

(b) be at least 480 mm wide;

(c) be securely fastened in place;

(d) have braces that tie their vertical and horizontal supports and ensure stability;

(e) when they are open-worked and placed more than 1.8 m above the floor or the ground, not include openings or holes such as a sphere of 30 mm can go through;

(f) have a free space of 2 m above and below, unless the danger is indicated;

(g) where they include welded elements, be welded by welders having an “O” or “V” class certificate from the Canadian Welding Bureau or a Class A or B qualification certificate in pressure vessel welding issued by Emploi-Québec;

(h) bear a plate giving their rated load, maximum weight (including rated load), name of the manufacturer, date of manufacture, reference to plans submitted and in the

case of a ramp, a runway or a platform made after 24 January 1987, identification of the welder;

(i) have guard-rails complying with Subdivision 3.8.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.7.1; O.C. 1959-86, s. 17; O.C. 35-2001, s. 12; O.C. 606-2014, s. 11.

3.7.2. Ramp:

(1) Any ramp shall:

(a) have a slope not exceeding 300 mm of vertical rise to each 900 mm of horizontal run; and

(b) have cross cleats if the slope exceeds 300 mm of vertical rise to each 2.4 m of horizontal run. These cleats shall:

(i) be spaced at regular intervals not exceeding 450 mm; and

(ii) measure at least 25 mm × 50 mm, nominal measurements.

(2) The requirements of subsection 1 do not apply to a ramp which is installed in the stairwell of a building 2 storeys or less, inasmuch as the ramp:

(a) has a slope not exceeding 45º; and

(b) has cleats measuring 50 mm × 50 mm, nominal measurements, spaced at regular intervals not exceeding 300 mm.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.7.2.

3.7.3. Platforms and other similar structures hooked to concrete forms shall be designed, constructed and installed with respect to the work to be performed and the hazards involved. These structures shall:

(a) be supported on solid foundations;

(b) be securely anchored at the rest point; and

(c) never be overloaded.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.7.3.

§3.8. Guardrails

3.8.1. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.8.1; O.C. 995-91, s. 8; O.C. 1413-98, s. 15; O.C. 35-2001, s. 13.

3.8.2. Resistance:

(1) A guardrail shall be designed to:

(a) resist a concentrated horizontal force of 900 N applied to any point of the top plate; and

(b) resist a concentrated vertical force of 450 N applied to any point of the top plate.

(2) Where there is a concentration of workers, as well as other areas where a guardrail may be submitted to unusual pressures, the guardrail shall be reinforced accordingly.

(3) Where equipment or materials may fall from one work level to another, precautions shall be taken to avoid this, unless there is a guardrail strengthened for this purpose.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.8.2.

3.8.3. Construction:

(1) Any guardrail shall be between 1 m and 1.2 m above the surface on which the worker is working.

(2) A wooden guardrail shall consist of:

(a) top plate not less than 40 mm thick by 90 mm wide, supported on posts of the same dimension spaced at intervals of not more than 1.8 mm and placed so that the 90 mm width of the post is on the axis of the width of the top plate;

(b) an intermediate rail not less than 75 mm wide at midway and securely fastened to the inner side of the posts; and

(c) a toe-board at least 90 mm high and securely fastened to the inner side of the posts.

(3) A guardrail of steel wire ropes shall be maintained rigid by means of a turn-buckle and consist of:

(a) a wire rope at least 10 mm in diameter for the top-rail and the intermediate rail;

(b) steel posts spaced at intervals of not more that 3 m; and

(c) a toe-board of at least 90 mm high and securely fastened to the inner side of the posts.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.8.3; O.C. 329-94, s. 42.

3.8.4. Metal guardrails: Metal guardrails shall be designed, constructed, installed and maintained in such a way as to offer a resistance and a safety equal or superior to that required for wooden guardrails.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.8.4.

3.8.5. When wire mesh is required on a guardrail, it shall:

(a) be of gauge No. 16 or larger;

(b) have mesh of 40 mm or less;

(c) fill all the area between the toe-board and the top-rail; and

(d) be installed on the inside of the intermediate rail.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.8.5.

§3.9. Scaffoldings

3.9.1. Generality: Scaffoldings constructed in accordance with this subdivision shall be required in places where workers cannot carry out their work safely from the ground or from a solid construction. However, ladders may be used for work requiring less than one hour.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.1.

3.9.2. Construction: Scaffoldings shall:

(a) be designed, constructed, braced, windbraced and maintained in order to support the loads and stresses to which they are subjected and be wind resistant; and

(b) rest on the ground or on foundations which offer sufficient resistance.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.2.

3.9.3. Materials:

(1) Materials used for scaffolding shall be free from any defects which might impair their resistance.

(2) The lumber used for scaffolding shall be:

(a) in good condition, composed of long non-breaking fibres and free from any defect which might impair its strength;

(b) of a quality equivalent to No. 1 spruce;

(c) barked, if it is rough timber; and

(d) without paint or any opaque coating.

(3) The metal parts of a scaffolding shall:

(a) not be weakened by rust, nor by any corrosive material; and

(b) if tubular elements are used, not be weakened by the effects of cold or heat.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.3; O.C. 53-90, s. 8; O.C. 329-94, s. 43.

3.9.4. Erection and dismantling:

(1) The erection and dismantling of scaffoldings shall be performed under the supervision and control of a qualified person.

(2) All parts of a scaffolding shall be inspected by a qualified person before its erection.

(3) During erecting and dismantling operations, all safety measures shall be taken to prevent objects from falling.

(4) Tools appropriate to the type of scaffolding shall be placed at the disposal of the workers.

(5) In order to protect workers against falls when they erect or dismantle scaffolding, one or several measures provided for in subparagraphs 1 to 4 of the second paragraph of section 2.9.1 shall be taken.

(6) During the erection or dismantling of scaffolding, any other work shall:

(a) be performed on only those sections which conform to this Code; and

(b) not be performed under the sections being used, unless an overhead protection for workers is provided to catch objects which fall from a higher level.

(7) During its erection or dismantling, no scaffolding shall be left in such a state that it may create a hazard.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.4; O.C. 35-2001, s. 14.

3.9.5. Uprights:

(1) Scaffolding uprights shall rest on the ground or on foundations capable of supporting the maximum load without excessive settlement or deformation.

(1.1) When scaffolding uprights rest on uneven ground, a safe and efficient means, such as screw jacks, must be used to ensure the plumbness of the scaffolding.

The use of construction waste material to fill the unevenness in the ground is prohibited.

(2) The inner row of uprights shall be erected as close as possible to the building or structure.

(3) The wooden uprights shall:

(a) be fastened to the ground or foundation in such a way as to avoid any displacement of the base;

(b) be vertical; and

(c) not be cracked at the foot.

(4) Should the uprights be spliced, they shall be fitted together in such a way that the spliced portion be at least as resistant as the portion which is directly beneath it.

(5) When 2 stationary scaffoldings, resting on the ground, meet at the angle of a building or structure, an upright shall be placed at the intersection of the extended exterior longitudinal girders.

(6) The parts making up the uprights shall be linked up in such a way that no torque or stress capable of causing buckling can come about.

(7) The distance between 2 juncture points of a structure likely to buckle shall not be longer than:

(a) 30 times the smallest dimension of the wooden member involved; or

(b) 70 times the diameter of the tubular member involved.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.5; O.C. 119-2008, s. 5.

3.9.6. **Stringers:**

(1) Two stringers located at the same level can only be joined at right angles with an upright.

(2) Any stringer shall be in a horizontal position.

(3) Any stringer shall be sufficiently long to be sustained by at least 3 uprights.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.6.

3.9.7. **Putlogs:** Putlogs supporting the platform shall:

(a) be fixed in a greater vertical dimension; and

(b) be sufficiently long so they extend at least 75 mm beyond the braces of the inside and outside rows of uprights.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.7.

3.9.8. Platforms: The components of the platforms shall be laid in such a way as to prevent any toppling or sliding. In addition, scaffolding platforms shall:

(1) have a uniform surface between two fulcrum points;

(2) have a minimum free width of 470 mm;

(3) if made of lumber, be constructed of planking:

(a) stamped by a body certified by the Canadian Lumber Standards Association as being of quality equivalent to No. 1 spruce;

(b) measuring at least 38 mm × 235 mm;

(c) long enough to extend at least 150 mm but not more than 300 mm beyond the end supports; if they are fixed end to end, their extremities shall rest on individual fulcrum points;

(d) laid in such a way as the span between 2 fulcrum points does not exceed:

(i) 3.0 m if they are tested and stamped in accordance with Division 11 of CAN/CSA Standard S269.2-M87 Access Scaffolding for Construction Purposes;

(ii) 2.1 m in any other case;

(e) whose deflection in the middle of the span does not exceed L/80 where L is the distance between 2 fulcrum points;

(4) if made of manufactured products, be:

(a) built in accordance with CAN/CSA Standard S269.2-M87 Access Scaffolding for Construction Purposes;

(b) worked so as to avoid slipping;

(c) maintained to avoid corrosion and deterioration;

(5) before each use, be visually inspected in order to detect any alteration that may affect its solidity;

(6) have a slope of less than 1:5 (11º from the horizontal plane); and

(7) be located less than 350 mm from a wall or other platform if there is no guardrail.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.8; O.C. 53-90, s. 9; O.C. 329-94, s. 44; O.C. 35-2001, s. 15; O.C. 119-2008, s. 6.

3.9.9. **Scaffolding assemblies:** Scaffolding assemblies shall be performed in the following manner:

(a) if nails are used, they shall:

(i) be of a length and size appropriate to the thickness of the assembled pieces;

(ii) be sufficiently numerous in relation to the weight being supported;

(iii) not be subject to a drawing effect;

(iv) be completely driven in, except for double-headed nails in which case the first head shall be completely driven in;

(v) have their points flattened should they extend beyond the exterior surface of the last piece assembled; and

(vi) be pulled out of any dismantled wood;

(b) when nuts are used, wrenches shall be:

(i) the appropriate size, to avoid sliding on the head of the nut;

(ii) such that while tightening, the elasticity limit of the metal with which the nut is made is not exceeded; and

(iii) equipped with a strap to enable the workmen to suspend them from his wrist or belt;

(c) when devices such as clamps or metallic points are utilized, these devices shall:

(i) be specially designed for this purpose; and

(ii) be so fixed as not to slip under the pressure brought to bear upon them.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.9.

3.9.10. **Mooring:**

(1) Stationary scaffoldings shall be firmly anchored to the steel structure or to any other point which offers sufficient strength to hold them in place.

(2) Scaffoldings shall not be attached to balustrades of balconies, or any other part of a construction which offers insufficient strength.

(3) The putlogs of a scaffolding which has a single row of uprights shall be attached to the main structure by one end. They shall be embedded at least 100 mm in the masonry.

(4) Scaffoldings which have double rows of uprights shall be solidly anchored at vertical intervals not exceeding 3 times the smallest dimension of the base of these scaffoldings. The fastening points shall not cover an area greater than 50 m^2 and shall be uniformly distributed in a staggered arrangement if possible.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.10.

3.9.11. Means of access: Scaffoldings more than 1.5 m from the ground, or from any other fixed support, shall have means of access, safe and clear of any obstruction, with:

(a) landings at every 6 m; and

(b) a stair for scaffoldings 18 m in height or over.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.11.

3.9.12. Inspection: Scaffoldings shall be inspected by a qualified person:

(a) at least once every 3 months;

(b) following any failure of the material;

(c) after any abnormal pressure or any incident which might have adversely affected the structure; and

(d) when re-used after any lengthy work interruption.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.12.

3.9.13. Hoisting cables for scaffoldings:

(1) Any hoisting cable for scaffoldings shall:

(a) be designed for this use and of the appropriate diameter. This diameter not being less than:

(i) 19 mm for fibre cables; or

(ii) 8 mm for metallic cables;

(b) have a safety factor of 10;

(c) be provided with the appropriate sockets when spliced into eyeholes or links. If cable terminal clamps are used, they shall be of a size appropriate to the diameter of the metallic cable and so placed that the band of the U is on the supporting end of the cable;

(d) be bound at both ends to avoid unravelling of the strands;

(e) be shielded from projections of the building;

(f) be adequately protected when corrosive substances are used nearby;

(g) be kept in a cool and dry place protected against chemical or corrosive vapours;

(h) if used with a hoisting apparatus having a friction drum, be long enough to reach the ground or be prevented from coming out of the hoisting apparatus by twisting the free end around an eyelet and fixing it by means of a cable clamp.

This last method must be used for any work above a body of water or watercourse; and

(i) if used with a hoisting apparatus having a winding drum, be fixed to the drum with a fastener having a minimum resistance of 80% of the breaking point of the hoisting cable.

(2) Any fibre cable:

(a) shall not be used in any of the following cases:

(i) when the suspension points are more than 30 m above ground;

(ii) on winch drums;

(iii) near corrosive or chemical substances unless it has been appropriately treated;

(b) shall not drag on rough surfaces;

(c) shall be kept in good condition by:

(i) drying it out; and

(ii) protecting it from frost; and

(d) shall be replaced after 2 years of services or before, if the cable is frayed and if the strands are discoloured or blackened and are beginning to crumble by producing a whitish dust.

(3) Synthetic fibre cable may be used in place of fibre cable if the same standards are fulfilled and if it has an equivalent strength.

(4) Any metallic cable shall:

(a) comply with the rules of the Hoisting and Rigging Safety Manual of the Construction Safety Association of Ontario, translated by the Commission de la santé et de la sécurité du travail and published by Les Publications du Québec;

(b) be made of a minimum of 6 strands of 19 wires;

(c) have a hemp core or an equivalent flexible core if the cable is wound around the hoisting drum in a single layer, or a steel core in other cases; and

(d) be maintained in good condition by:

(i) following all the manufacturer's instructions;

(ii) handling it in such a manner as to avoid any kink;

(iii) frequently applying an appropriate lubricant which will help keep it flexible and protect it from rust; and

(iv) using it only on pulleys or drums which are smooth and without any ragged edges.

(5) Unless a test shows that nowhere along the cable has the breaking point been lowered to less than 90% of the original point, the hoisting cable shall be replaced if:

(a) 4% of the total number of wires in the cable are broken in one strand through the cable pitch, approximately 6 1/2 times the diameter of the cable, when used on a winding drum, or 2% on a friction drum;

(b) the original diameter, measured on an unstretched cable, has been reduced by:

(i) 0.8 mm for cables of 8 mm to 15 mm in diameter; or

(ii) 1.2 mm for cables of 15 mm to 25 mm in diameter;

(c) the exterior wires present a worn aspect covering more than 50% of their diameter;

(d) corrosion is more than superficial.

(6) Any hoisting cable, when being used on an apparatus, shall not be left lying on the ground, but kept in a receptacle.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.13; O.C. 329-94, s. 45; O.C. 393-2011, s. 10; O.C. 513-2015, s. 4.

3.9.14. **Utilization:**

(1) The employer shall see that no one works on a scaffolding:

(a) which does not conform to this Code;

(b) during a storm or a high wind period; or

(c) when the platform is covered with ice, snow or sleet, unless the said surface has been covered with an anti-slip substance.

(2) Workmen shall not work on scaffoldings with different levels, unless protection has been provided over those working below in order to stop tools or other objects which may fall from a higher level.

(3) A hoisting apparatus forming part of the installation shall be installed and operated according to the manufacturer's instructions.

(4) In assembling metal scaffolding, it is prohibited to use any piece that has been reformed or straightened in such a way that its strength is diminished.

(5) No vehicle or equipment which can be moved and on which a scaffolding is installed or erected, may be moved when a worker is on the scaffolding.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.14; O.C. 1959-86, s. 18; O.C. 329-94, s. 46.

3.9.15. **Outrigger scaffolding:** The outrigger beams for an outrigger scaffolding shall:

(a) have their inboard portion from fulcrum point to point of anchorage not less than 1.5 times the length of the outboard portion;

(b) be supported on the solid parts of the construction;

(c) be securely anchored at the fulcrum point and well braced against upsetting;

(d) be securely anchored at the inboard end in order to prevent any vertical or horizontal movement; and

(e) be inspected before each use.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.15.

3.9.16. **Suspended scaffolding:**

(1) Any suspended scaffolding shall:

(a) be off-limits to persons under age 18;

(b) at the working level, be firmly and appropriately attached to the structure if the guardrail installed on the structure side is to be removed;

(c) not be attached to another scaffolding or to the structure by a bridge; and

(d) be used with a safety harness secured by a fall arrest connecting device to an anchorage system, the whole in accordance with sections 2.10.12 and 2.10.15. However, when the suspended scaffolding is hung from 4 hoisting cables, the anchorage system may be installed on the platform. Where a rope grab fastened to a vertical life line is used, it must be a Class ADP rope grab.

(2) A mechanically operated suspended scaffolding shall conform to CAN3-Z271-M84 Safety Code for Suspended Powered Platforms.

(3) A manually operated suspended scaffolding shall also conform to the standard mentioned in subsection 2, with he necessary modifications.

The winch of the scaffolding shall be fitted with at least 2 independent braking devices, including one automatic brake, that shall serve only for that purpose.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.16; O.C. 807-92, s. 4; O.C. 606-2014, s. 12.

3.9.17. **Boatswain's chair:**

(1) Any boatswain's chair shall:

(a) be prohibited to persons under 18 years of age;

(b) be built of material able to support 115 kg with a safety factor of 4;

(c) be not less than 600 mm wide and 250 mm deep;

(d) be suspended from a hoisting ring by a metallic structure or by means of slings at the 4 corners and crossing beneath the seat; and

(e) be equipped with:

(i) retaining devices preventing any swaying;

(ii) stirrups so as to avoid numbness of the legs;

(iii) *(subparagraph revoked);*

(iv) a back; and

(v) reinforcement blocks at each corner which extend at least 230 mm beyond the front of the chair.

(2) The boatswain's chair shall conform to CAN3-Z271-M84 Safety Code for Suspended Powered Platforms, with the necessary modifications.

(3) Where the boatswain's chair is moved by means of a manually operated winch, that winch must be equipped with at least 2 independent braking devices, including an automatic brake, that shall serve only for that purpose.

(4) A worker in a boatswain's chair must wear a safety harness secured by a fall arrest connecting device to an anchorage system, the whole in accordance with sections 2.10.12 and 2.10.15. Where a rope grab fastened to a vertical life line is used, it must be a Class ADP rope grab.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.17; O.C. 807-92, s. 5; O.C. 35-2001, s. 16; O.C. 606-2014, s. 13.

3.9.18. Ladder jack scaffolding: Any ladder jack scaffolding shall be used by one worker at a time and in the following conditions:

(a) on ladders which are securely fixed in position at top and bottom;

(b) if the distance between the ladders is not more than 3 m;

(c) if the falling height is not more than 3 m; and

(d) if the platform is so supported that the load is transmitted to the rails and not to the rungs.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.18; O.C. 329-94, s. 47.

3.9.19. Mobile scaffolding: Any mobile scaffolding shall:

(a) be equipped with a braking device which prevents the scaffolding from moving;

(b) have the brakes applied when it is being used;

(c) be rigid and stable; and

(d) not be moved when a workman is on it, unless:

(i) he is advised of the move;

(ii) the smallest dimension of the base of the scaffolding is at least equal to 1/3 its height.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.19.

3.9.20. Metal scaffolding:

(1) The use of a metal scaffolding shall conform to the instructions of the manufacturer.

(2) The tubes or runners shall be assembled in such a way that when they are taken down, whatever remains of the scaffolding will not constitute a hazard.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.20.

3.9.21. Suspended scaffolding used by bricklayers: Any suspended scaffolding for the use of bricklayers shall:

(a) be attached to an outrigger beam capable of withstanding at least 4 times the maximum utilization load without exceeding the allowable stress of the materials used. This outrigger beam shall, in addition to be conform to section 3.9.15, be solidly fixed in one of the following ways:

(i) by an anchorage to the concrete slab on which it rests;

(ii) between 2 concrete slabs, by beams or columns braced perpendicular to the vertical and horizontal planes;

(iii) to the beams of the metal framework;

(b) in addition to conforming to paragraphs *a* and *c* of subsection 1 of section 3.9.16, have a wooden guardrail as specified in Subdivision 3.8;

(c) include hoisting apparatus:

(i) in sufficient number and assembled so that the safety factor of the cables is always more than 10;

(ii) attached 2 by 2 to the same outrigger beam; and

(iii) equipped with a double safety device which continually locks the winch against any reverse motion and with cables which conform to section 3.9.13;

(d) include a platform:

(i) in conformity with section 3.9.8;

(ii) made of pieces of wood 50 mm × 250 mm bolted at each end on a putlog;

(iii) equipped with steel putlogs whose circular ends are 25 mm in diameter and 50 mm in length and perforated 15 mm at the outside edge for a 10 mm pin; and

(e) assembled so that an end of one span is never more than 200 mm higher than the other.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.9.21; O.C. 1413-98, s. 16.

3.9.22. Mast-climbing work platform: Every mast-climbing work platform shall:

(1) be designed in conformity with the plans of an engineer; a copy of the plans must be available on request;

(2) be equipped with a plate on each hoisting system clearly stating the maximum load allowed on the platform;

(3) be equipped with bearers resting on base plates or mudsills, as shown on the engineer's plans or in the manufacturer's manual;

(4) have a distance between masts in conformity with the engineer's plans;

(5) have the sections of each mast linked together using the means specified in the engineer's plans or in the manufacturer's manual;

(6) have masts whose plumbness complies with the lesser of the following measures: the gap between a plumb line and any point lower than

(a) the engineer's plans or the manufacturer's manual; or

(b) 12 mm for 3 m in height, 19 mm for 6 m in height or 38 mm for the total height of the scaffolding;

(7) be loaded in conformity with the engineer's plans or the manufacturer's manual which must identify the loading zones;

(8) have masts anchored at the height and using an anchoring system in conformity with the engineer's plans or the manufacturer's manual;

(9) be equipped with an anchoring system designed for that purpose in conformity with the engineer's plans or the manufacturer's manual when safety tarpaulins are installed; and

(10) be used by workers trained to

(a) identify and prevent the hazards associated with the erection, dismantling and use of the scaffolding; and

(b) work on the platform safely.

O.C. 119-2008, s. 7.

3.9.23. **Pump jack scaffold:** In addition to the standards prescribed in section 3.9.22, every pump jack scaffold shall:

(1) be designed to support, in addition to the dead weight, 3 times the maximum load allowed without damage to any of its components;

(2) be used by not more than 2 workers at the same time between 2 masts;

(3) have masts made out of a material other than wood;

(4) be equipped with jacks designed to prevent any accidental slippage of the platform alongside the masts; and

(5) when the work platform passes in front of an intermediate anchoring point, be equipped with a new anchor installed one and a half metres under the platform, before removing the intermediate anchoring.

O.C. 119-2008, s. 7.

3.9.24. **Winch scaffolding:** In addition to the standards prescribed in section 3.9.22, every winch scaffolding shall:

(1) be designed and manufactured in compliance with ANSI/SIA Standard A 92.9-1993 Mast-Climbing Work Platforms;

(2) when climbing, have bracing affixed under the work platform before the above bracing is removed;

(3) be equipped with an arresting device to stop and support the platform in case of overspeed; the device must be designed to stop the work platform with twice the maximum load allowed by limiting the height of the fall to 300 mm, without any break in the components under stress;

(4) in addition to the instructions of the manufacturer, be inspected in compliance with the following minimum conditions:

(a) before each use in compliance with section 7.4.3 of ANSI/SIA Standard A 92.9-1993 Mast-Climbing Work Platforms by a qualified person; and

(b) quarterly by a qualified mechanic;

(5) undergo every year a visual examination of its welds by a welding inspector holding a certificate issued by the Canadian Welding Bureau or a welding supervisor in the employ of a company certified in compliance with the requirements of CSA Standard W47.1 Certification of Companies for Fusion Welding of Steel; and

(6) undergo every 5 years a non-destructive examination of the bearing parts by an organization certified by the Canadian Welding Bureau in compliance with the requirements of CSA Standard W178.1 Certification of Welding Inspection Organizations.

O.C. 119-2008, s. 7.

3.9.25. **Motorized scaffolding:** In addition to the standards prescribed in section 3.9.22, every motorized scaffolding manufactured after 13 March 2008 shall:

(1) be designed and manufactured in compliance with ISO Standard 16369 - Mast-Climbing Work Platforms, applicable at the time of the manufacture;

(2) have the sides of the work platform next to a mast protected over a height of at least 2 m to prevent access to the mast when the speed of the work platform exceeds 2.5 m per minute;

(3) be equipped with a device preventing the fall of the work platform in case of malfunction of the hoisting system;

(4) have at least one plate on which the following particulars appear in French:

(a) the name of the manufacturer;

(b) the date of manufacture;

(c) the climbing speed;

(d) the self-bearing height;

(e) the electric power supply; and

(f) the load table;

(5) in addition to the manufacturer's instructions, be inspected in compliance with the following minimum conditions:

(a) before each use, in compliance with section 7.1.2.9 of ISO 16369 - Mast-Climbing Work Platforms Standard, applicable at the time of the manufacture, by a qualified person; and

(b) quarterly by a qualified mechanic;

(6) undergo every year a visual examination of its welds by a welding inspector holding a certificate issued by the Canadian Welding Bureau or a welding supervisor in the employ of a company certified in compliance with the requirements of CSA Standard W47.1 Certification of Companies for Fusion Welding of Steel; and

(7) undergo every 5 years a non-destructive examination of the bearing parts by an organization certified by the Canadian Welding Bureau in compliance with the requirements of CSA Standard W178.1 Certification of Welding Inspection Organizations.

In addition, a complete instruction manual for every motorized scaffolding, written in French, must be at the disposal of users to ensure the scaffolding is used safely.

O.C. 119-2008, s. 7.

3.9.26. **Bracket scaffolding:** Every bracket scaffolding must:

(1) be designed in conformity with plans signed and sealed by an engineer; a copy of the plans must be available on request; and

(2) undergo every 5 years a non-destructive examination, other than a visual examination, of its welds by an organization certified by the Canadian Welding Bureau in compliance with the requirements of CSA Standard W178.1 Certification of Welding Inspection Organizations.

O.C. 606-2014, s. 14.

§3.10. Construction equipment

3.10.1. Any vehicle, crane, or apparatus used on a construction site shall:

(a) be maintained so that its use shall not compromise the safety of workers;

(b) if driven by a source of energy other than manual, be inspected by a competent person before being used for the first time on the site and, afterwards, on a daily basis, whenever it is used;

(c) be easily and safely accessible by means of either a ladder or steps with handrails;

(d) have the motors stopped when refuelling;

(e) not be used if weather conditions could render its use hazardous or during repairs or maintenance or when refuelling;

(f) provide a safety equal to the original safety following any repair or changing of parts;

(g) be used according to the manufacturer's instructions; and

(h) not be modified without an engineer's signed and sealed authorization specifying that such modification provides a safety equivalent to that provided by the apparatus when new.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.1.

3.10.2. **Self-propelled vehicles:**

(1) Any self-propelled vehicle shall be:

(a) provided with efficient brakes; and

(b) provided with horns that shall be used when approaching pedestrians, doors, curves and hazardous areas. This requirement does not apply to crawler type dozers, to skidders or to all-terrain vehicles.

(2) The operators of self-propelled vehicles shall be protected against falling objects or material by means of canopies, protective screens, cabs, or structures. That requirement does not apply to all-terrain vehicles.

(3) Self-propelled vehicles equipped with a winch at the back to haul materials shall have a protective screen between the winch and the operator.

(4) Persons other than the operator are prohibited from boarding self-propelled vehicles, unless these vehicles are equipped with seats and accessories for their protection.

(5) *(Subsection revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.2; O.C. 1959-86, s. 19; O.C. 807-92, s. 6.

3.10.2.1. All-terrain vehicles

The use of all-terrain vehicles on a construction site is permitted only under the following conditions:

(a) the vehicle is mounted on at least 4 wheels;

(b) it is equipped with a portable fire extinguisher complying with section 3.4.4 of this Code;

(c) it is equipped with a yellow flag at least 0.05 m^2 in area placed at least 1.5 m off the ground;

(d) the driver of the vehicle has the skill and knowledge required to safety use the vehicle as well as the extinguisher with which it is equipped;

(e) the driver shall wear the following pieces of individual protective equipment:

(i) a motorcycle or snowmobile protective helmet conforming to the Protective Helmets Regulation (chapter C-24.2, r. 6);

(ii) safety glasses or a face shield that comply with the latest version of CAN/CSA Standard Z94.3 Eye and Face Protectors, within 24 months following its last update, or a visor designed to be attached to a protective helmet;

(iii) flexible leather gloves or gloves made of a material that ensures a snug fit at the wrists and a good grip on the vehicle's controls.

It is prohibited to install a winch on an all-terrain vehicle.

In this section, “all-terrain vehicle” means a pleasure vehicle designed for driving elsewhere than on public highways and having a net mass not exceeding 450 kg.

O.C. 807-92, s. 7; O.C. 329-94, s. 49; O.C. 393-2011, s. 11.

3.10.3. **Heavy equipment:**

(1) The heavy equipment referred to in subparagraph *a* or *b* must have a rollover protective structure that complies with the standards referred to in those subparagraphs:

(a) Bulldozer, loader and skidder on wheels or caterpillars, grader, scraper and roller: ISO 3471 Earth-Moving Machinery - Roll-Over Protective Structures - Laboratory Tests and Performance Requirements, applicable at the time of manufacture of the equipment;

(b) Agricultural and industrial tractor with engine power greater than 15 kW: SAE J1194 Rollover Protective Structures (ROPS) for Wheeled Agricultural Tractors, applicable at the time of manufacture of the equipment.

(2) The heavy equipment referred to in subparagraph *a* of subsection 1, with the exception of rollers, must be protected from falling objects by a protective structure that complies with ISO 3449, Earth-Moving Machinery - Falling Object Protective Structures - Laboratory Tests and Performance Requirements, applicable at the time of manufacture of the equipment.

(3) *(Subsection revoked).*

(4) A rollover protective structure shall bear a plate indicating:

(a) the name of the manufacturer or his code;

(b) its serial number;

(c) a reference to the number of the standard used for its conception; and

(d) the model and the make of the heavy equipment for which the structure has been designed.

(5) The operator of a heavy equipment equipped with a protective structure, except for the grader, shall wear a safety belt when the vehicle is in motion.

(6) The caterpillars of bulldozers working perpendicular to the axis of a slope shall be equipped with metal parts placed so as to prevent sliding in the axis of the slope.

(7) When rollers are used on a steep slope, one shall:

(a) be careful to keep to the newly laid paving;

(b) be careful never to come in contact with bituminous bonding; or

(c) provide for a device capable of stopping the roller in case of danger.

(8) This section does not apply to a bulldozer on caterpillars equipped with a side boom and a counterweight and used for installing gas or oil pipelines.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.3; Decision 83-11-17, s. 6; O.C. 393-2011, s. 12; O.C. 606-2014, s. 15.

3.10.3.1. A loader manufactured after 23 April 1980 shall be designed and installed so that persons entering or leaving the cabin may not be struck or caught by a moving part.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.3.1.

3.10.3.2. Loader used for handling purposes

Subject to section 3.10.3.3, the use of a loader to handle materials, other than earthwork materials, is allowed under the following conditions:

(a) the handling of materials shall be carried out with equipment, excluding the bucket, designed by the manufacturer for the handling of materials; and

(b) the handling of materials shall be carried out in accordance with a method prepared in writing by the employer and indicating that no worker may be located under the load arms, any other part of the loader equipment being used for lifting, or under the load during handling.

O.C. 1413-98, s. 17.

3.10.3.3. Earth-moving machinery used for lifting purposes, whether or not it is modified,

The use of a hydraulic shovel, backhoe loader or loader for lifting purposes is allowed only for water, sewer, culvert or blasting works, if the following conditions are complied with:

(a) lifting must be carried out in accordance with a work method prepared in writing by the employer, available on the work site. The method must comply with the requirements provided for in section 2.15.6 and indicate that no worker may be located under the boom, arm, load arm or bucket of the machine or under the load during lifting;

(b) the hydraulic shovel, backhoe loader or loader shall also be equipped with a load hook-up device designed to avoid any accidental unhooking. The device shall be designed by the equipment manufacturer or be recommended by the manufacturer; and

(c) the requirements provided for in section 2.15.1 must be complied with.

The use of a sling or a mooring rope attached to the bucket teeth to lift a load is prohibited.

O.C. 1413-98, s. 17; O.C. 428-2015, s. 6.

3.10.3.3.1. Hydraulic shovel used for assembly on the ground during electric power line installation

The use of a hydraulic shovel on caterpillars for assembling components on the ground during the installation of an electric power line is allowed if the conditions of section 3.10.3.3 and the following conditions are complied with:

(1) the shovel must be equipped with load lowering control devices on the boom and the arm that comply with the standard Earth-moving machinery – Hydraulic excavator and backhoe loader boom-lowering control device – Requirements and tests, ISO 8643, published by the International Organization for Standardization, with the necessary modifications, and visual or audible overload indicator that complies with the standard Earth-moving machinery – Safety – Part 5: Requirements for hydraulic excavators, NF EN 474-5, published by the Association française de normalisation (AFNOR);

(2) a nominal load table that complies with the standard Earth-moving machinery – Hydraulic excavators – Lift capacity, ISO 10567, published by the International Organization for Standardization, must be installed so that the operator can read it;

(3) hoisting must be executed on a level surface having a bearing capacity sufficient to support the equipment and the load hoisted without significant settlement;

(4) the bucket of the hydraulic shovel must be removed to hoist a load.

O.C. 428-2015, s. 7.

3.10.3.4. Earth-moving machinery used for installing posts

The use of a hydraulic shovel or of a backhoe loader for the installation of posts is allowed if the following conditions are complied with:

(1) the lift cylinders of the boom, arm or bucket of the machine are provided with load lowering control devices that comply with one of the following standards:

(a) for machinery manufactured before 5 May 2011: ISO 8643: 1988 Earth-Moving Machinery - Hydraulic Excavator and Backhoe Loader Boom-Lowering Control Device - Requirements and Tests, with the necessary modifications;

(b) for machinery manufactured on or after 5 May 2011: ISO 8643 Earth-Moving Machinery - Hydraulic Excavator and Backhoe Loader Boom-Lowering Control Device - Requirements and Tests, with the necessary modifications;

(2) the outriggers are provided with control devices installed in accordance with one of the standards referred to in subparagraph *a* or *b* of paragraph 1.

O.C. 1413-98, s. 17; O.C. 393-2011, s. 13.

3.10.4. Utilization:

(1) Any construction equipment shall be used by a competent operator or be under his supervision.

(2) No person shall operate a vehicle on a construction site unless:

(a) he holds a licence to use the vehicle on a public highway in accordance with the Highway Safety Code (chapter C-24.2); or

(b) he is the holder of a document attesting to his ability to drive the vehicle off public highways.

(3) Paragraph *b* of subsection 2 above does not apply to a person who is:

(a) learning to use a bulldozer, crane, or other equipment; and

(b) is accompanied by a qualified person.

(4) Any manoeuvre shall be carried out so that no workman is exposed to a hazard. No load shall pass over the heads of workers and no worker shall stand under a load or under a part of a hoisting apparatus that could fall on him.

(5) The controls of construction equipment shall not be left unattended when the following parts of the equipment are raised:

(a) the bucket of a power shovel, backhoe or other excavating machine;

(b) the blade of a bulldozer;

(c) the load of a lift truck, crane or any other hoisting machine; or

(d) the hammer of a pile-driving device.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.4; O.C. 1959-86, s. 20; O.C. 35-2001, s. 17.

3.10.5. Signalmen:

(1) When a motor vehicle is driven in reverse, a signalman shall direct the operator if such a move may create a hazard for any person.

(2) If the operator of a crane, mechanical shovel or any other construction equipment does not have an unrestricted view during any maneuver, one or more signalmen shall assist the operator:

(a) by watching the movement of the equipment or of the load when it is out of the operator's sight;

(b) by communicating with the operator by means of a standardized signal code, or by a telecommunications system when conditions so require or the operator judges it necessary.

(3) When a signalman is required to ensure safe maneuvering as prescribed in subsections 1 and 2, he must be placed in full view of the operator, with a full view of the intended path of travel of the vehicle and off the intended path of travel.

(4) The operator must obey any stop signal.

(5) When the operator can no longer see the signalman, he must stop his vehicle or his maneuver.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.5; O.C. 1959-86, s. 21; O.C. 329-94, s. 51.

3.10.6. Access to construction equipments:

(1) No unauthorized persons shall be allowed to climb onto construction equipment.

(2) The employer shall see that no worker remains in or on a vehicle if he might be endangered during the loading or unloading of the vehicle or while objects are being handled above the said vehicle.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.6.

3.10.7. Lifting of workers:

(1) A hoisting apparatus designed to lift persons shall be equipped with control levers of the deadman type, with an emergency stop button within reach of the workers being transported and a device that prevents the fall of the cabin in case of a defect in the electric or hydraulic supply.

(2) The lifting of a worker with an apparatus designed exclusively for the lifting of materials is allowed provided that:

(a) the apparatus is equipped with a platform;

(b) there are not more than 5 workers on the platform;

(c) every worker wears a safety harness secured by a fall arrest connecting device to an anchorage system, the whole in accordance with sections 2.10.12 and 2.10.15;

(d) the total load does not exceed 70% of the rated load of the hoisting apparatus;

(e) the operator of the hoisting apparatus uses the stabilizers when the apparatus is equipped with them;

(f) the hoisting apparatus is not displaced when a worker is on the platform;

(g) there is communication without intermediaries between a worker on the platform and the operator of the hoisting apparatus;

(h) the employer submits the plans, the description of the hoisting apparatus and the utilization process to the Commission, except for a mobile crane or a lift truck; and

(i) ladders, stepladders, scaffolds or other accessories are not used on the platform.

(3) The platform required in subsection 2 shall:

(a) have a non-skid floor;

(b) be built in such a way as to allow a clearance of 2 m above any point of the floor;

(c) be equipped with a metal guardrail on the 4 sides. The intermediate rail may be replaced by a wire mesh;

(d) have a minimal width of 500 mm;

(e) have a minimum safety factor of 4 for the structural elements;

(f) comply with the plans required in paragraph *h* of subsection 2 of section 2.4.1;

(g) if it has welded elements, be welded by a welder holding a Class “O” or “V” certificate of the Canadian Welding Bureau or a Class A or B qualification certificate in pressure vessel welding issued by Emploi-Québec; and

(h) have a plate indicating the rated load of the platform, the total weight of the platform (including the rated load), the manufacturer's name, the date of manufacture and a reference to the plans submitted. Identification of the welder shall be mentioned for any platform manufactured after 23 April 1980.

(4) During the hoisting of a worker with a mobile crane:

(a) the crane shall conform to CSA Standard Z150-1974 Safety Code for Mobile Cranes and its supplement No. 1-1977;

(b) the platform shall be suspended or held in such a way that:

(i) the slope of the floor does not exceed 1/5 in the worst loading conditions; and

(ii) the flexible suspension members of the platform and the supporting hitch or pin have a minimum safety factor of 10;

(c) an additional link shall tie the supporting hitch of the platform to a point located above the hook; and

(d) the mobile crane shall be equipped with an upper limit switch for the hook or with a boom allowing the lifting of the platform at least to 3 m above the highest work level.

(5) During the hoisting of a worker with a lift truck:

(a) the lift truck shall conform to CSA Standard B335.1-1977 Low Lift and High Lift Trucks;

(b) the platform shall encircle the forks and be secured to the apron of the lift truck;

(c) the total load shall not exceed 50% of the rated load of the lift truck;

(d) when the platform is equipped with a hoisting control, it shall be possible to stop the lift truck from this control and the latter shall have priority on any other control; and

(e) when the platform is not equipped with a hoisting control, the operator of the lift truck shall remain at the controls during the work.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.7; O.C. 1959-86, s. 22; O.C. 329-94, s. 52; O.C. 35-2001, s. 18; O.C. 606-2014, s. 16.

3.10.8. Vehicle-mounted aerial device:

(1) A vehicle-mounted aerial device manufactured before 1 January 2000 shall meet one of the following requirements:

(a) comply with CSA Standard C225-1976 Vehicle-Mounted Aerial Devices;

(b) comply with ANSI Standard A92.2-1979 Vehicle-Mounted Elevating and Rotating Aerial Devices and be submitted to non-destructive testing of load bearing parts by a certified body before 1 January 2000; or

(c) comply with ANSI/SIA Standard A92.2-1990 Vehicle-Mounted Elevating and Rotating Aerial Devices.

(2) A vehicle-mounted aerial device manufactured on or after 1 January 2000 shall meet one of the following requirements:

(a) comply with CAN/CSA Standard C225-M88 Vehicle-Mounted Aerial Devices; or

(b) comply with ANSI/SIA Standard A-92.2-1990 Vehicle-Mounted Elevating and Rotating Aerial Devices and have been manufactured by an enterprise certified in compliance with ISO 9001.

(3) A worker in an aerial device must wear a safety harness secured by a fall arrest connecting device to an anchorage system provided by the device's manufacturer or, failing that, to an anchorage system complying with section 2.10.15. The harness and fall arrest connecting device must comply with section 2.10.12.

(4) Mobile cranes are not governed by this section.

(5) For the purposes of this section,

“**certified organization**” means an organization certified by the Canadian Welding Bureau to the requirements of CSA Standard W178.1-1996 Certification of Welding Inspection Organizations;

“**load bearing device**” means a device that carries or supports loads relative to the use of an aerial device;

“**non-destructive testing**” means testing, other than visual, carried out and interpreted by a Level II inspector certified by the Canadian General Standards Board in compliance with the certification standards for personnel assigned to non-destructive inspection of materials.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.8; O.C. 329-94, s. 53; O.C. 1413-98, s. 18; O.C. 35-2001, s. 19; O.C. 606-2014, s. 17.

3.10.9. Material hoisting apparatus:

(1) Any hoisting apparatus used to lift materials on construction site shall:

(a) have solid moorings and fastening devices, designed, constructed and installed in such a way so as to support all loads and stresses which may be applied to them;

(b) be constructed of adapted materials;

(c) have an outrigger beam capable of supporting 4 times the maximum working load of the apparatus. This beam shall conform to section 3.9.15; and

(d) be equipped with a brake or equivalent device capable of supporting the maximum working load of the apparatus and of automatically stopping it during an

interruption of the hoisting movement.

(2) The hoisting cable shall always be in good condition and never used as a sling.

(3) In order to protect workers from falling when they work to pull loads onto a floor at platform level, one or several measures provided for in subparagraphs 1 to 4 of the second paragraph of section 2.9.1 must be taken.

(4) The projection on the ground level of the space used for hoisting operations, the loading area and the hoisting mechanism area shall be encircled by a barrier and forbidden to any worker other than the one doing the loading.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.9; O.C. 329-94, s. 54; O.C. 35-2001, s. 20.

3.10.9.1. A material hoist manufactured before 1987 shall comply with the Safety Code for Material Hoists CSA Z256-1972 (Rev. 1977).

A material hoist manufactured as of 1987 shall comply with the Safety Code for Material Hoists CAN/CSA Z256-M87.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.9.1; O.C. 329-94, s. 55.

3.10.10. Cabin:

(1) If the operator of motorized equipment runs the risks of being injured by flying objects, or by falling objects or material, a cabin or a protective structure shall be installed.

(2) The cabins shall be:

(a) located and equipped so as to provide the operator with the best possible view;

(b) closed and provided with safety glass windows on all side if used outside; and

(c) adequately heated during cold weather.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.10.

3.10.11. Lighting: When a self-propelled vehicle is in operation after nightfall or whenever circumstances so require, it shall be provided with:

(a) headlights in front and at least one red light in the rear; and

(b) sufficient lighting installed so as not to hamper the operator but allowing him to carry out his duties and to read easily the indicators on the dashboard.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.11.

3.10.12. Warning devices:

(1) Any self-propelled vehicle shall be equipped with a warning device that shall:

(a) be installed within reach of the operator;

(b) have a sound which is special to that type of equipment and different from any other signal on the site; and

(c) be loud enough to override surrounding noises.

(2) Shall be supplied with an automatic warning horn for the reverse gear:

(a) dump trucks;

(b) cement trucks;

(c) service trucks having a nominal capacity of 2,250 kg or more and used for maintenance or for supplying a construction site with equipment;

(d) trucks equipped with an auxiliary crane for moving materials;

(e) trucks used on electric distribution and transportation lines equipped with an auger arm, a basket and any other similar equipment; and

(f) the automatic warning horn must have a noise intensity that is superior to the noise of the equipment on which it is installed and have a distinct sound. If the automatic warning horn is electric, it must conform to SAE Standard J994b-1974 Performance, Test and Application Criteria for Electrically Operated Backup Alarm Devices.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.12.

3.10.13. Safety and protective devices:

(1) Moving parts of machines shall be protected by safety devices. They shall be designed, constructed and used so as:

(a) to ensure a positive protection and to prevent any access to the danger zone during their operation;

(b) not to hamper the operator;

(c) to operate automatically or with a minimum of effort;

(d) to allow easy maintenance and repair of the machine;

(e) not to have sharp edges, asperities or burrs and to constitute a source of hazards; and

(f) to be solidly fixed.

(2) If moving parts are not protected due to their location or by suitable guards, it shall be assured that:

(a) the projecting extremities of transmission shafts are protected by sleeves or sockets;

(b) the revolving collars are cylindrical and without projecting parts;

(c) the jet screws, belts, keys, grease cups and other projections in revolving parts are flushed or covered to avoid any contact; and

(d) unused keyways are filled up or enclosed in a guard.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.13.

3.10.14. **Abrasive wheels:** Any abrasive wheel:

(a) 50 mm or more in diameter, shall be equipped with a guard compatible with the work being performed and offering the most efficient protection against accident;

(b) shall be tightened between 2 protective discs of a minimum diameter of at least 1/3 its diameter unless mounted on chucks cemented on back metallic plates or firmly fixed on back by any other mean;

(c) shall have its tool holder or its work stand firmly fixed and never more than 3 mm from the abrasive wheel;

(d) shall be inspected before being mounted in order to detect cracks, excessive looseness or other defects;

(e) shall not operate at a speed higher than the maximum speed specified by the manufacturer; and

(f) shall not be used if it is cracked, broken or unbalanced.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.14.

3.10.15. **Saws:**

(1) Bandwheels on bandsaws and the return portion of the blades shall be placed in guards, and the working side of the saw blade shall be protected between the rollers or guide blocks and the casing of the upper band wheel.

(2) Any circular saw shall be provided with a protective hood covering the exposed parts up to the base of the teeth.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.15.

3.10.16. **Chain saw:**

(1) **Chain brake:** A portable power chain saw shall be equipped with a chain brake and with a device to operate the brake.

(2) **Vibrations:** A portable power chain saw shall be equipped with a vibration insulation system on the front and back handles, designed and manufactured in such a way so that the operator's control of the chain saw is not affected if an insulator happens to fail.

(3) The employer shall ensure that the user of a chain saw:

(a) starts the saw only when it is on a solid surface more than 3 m away from the place where it was filled with gas;

(b) uses his saw while holding it with both hands and with his feet solidly set;

(c) does not use the saw higher than shoulder level;

(d) does not use his saw inside a closed building if the saw has an internal combustion motor;

(e) stops the chain when he goes from one work site to another; and

(f) adjusts and oils the saw only when the motor is stopped.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.16.

3.10.17. **Internal combustion motor:**

(1) No internal combustion motor shall be used near sites where there are explosive dusts or flammable vapours.

(2) Air impurities produced inside any closed structure shall be removed at the emission point so that their concentration is reduced to a level below the limit values specified in Schedule I to the Regulation respecting occupational health and safety (chapter S-2.1, r. 13).

(3) As soon as the ventilation system stops, any internal combustion motor shall be immediately stopped and re-started only when the ventilation system starts to operate again.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.17; O.C. 885-2001, s. 377.

3.10.18. **Repairs:** Before beginning repairs, all raised parts shall be well blocked.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.18.

3.10.19. **Long loads:** When a load extends more than 900 mm from the rear of a truck, the end of the load shall be indicated by:

(a) a square red flag during the day, at least 300 mm along its sides; or

(b) a flashing amber light at night.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.10.19.

§3.11. Temporary heating

3.11.1. Any equipment providing a temporary heating supply system shall be safely installed and operated.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.11.1.

3.11.2. It is prohibited to use a heating system which burns gasoline or naphtha.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.11.2.

3.11.3. Any oil or fuel or gas heating system with the exception of those where the flame is in direct contact with the air, shall have a vent pipe.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.11.3.

3.11.4. Any fuel-fired heating system shall be:

(a) so located, protected and used that there is no risk of igniting:

(i) tarpaulins or any other similar temporary shelter; or

(ii) wood or any other combustible material adjacent thereto;

(b) used in an enclosed area only if there is:

(i) sufficient air supply for normal combustion; and

(ii) sufficient ventilation;

(c) protected from any damage or overturning;

(d) located so as not to block the means of egress;

(e) connected to a metal chimney, if used to burn a solid fuel, in order to discharge the products of combustion outside the building; and

(f) connected to the liquid fuel tank by means of piping well protected against any damage.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.11.4.

3.11.5. An electric air-heater must be certified in accordance with CAN/CSA Standard C22.2 No. 46, Electric Air-Heaters, applicable at the time of its manufacture.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.11.5; O.C. 393-2011, s. 14.

3.11.6. Oil heating equipments shall be installed in accordance with CSA Standard B139 — 1971 Installation Code for Oil Burning Equipment, with the exception, however, of clause 12.3 of that Code.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.11.6.

3.11.7. Any radiator, device or equipment operated with natural gas and used on a construction site shall:

(a) comply with CAN/CGA Standard B.149.1-M91 Natural Gas Installation Code, if it is fired with natural gas, and with CAN/CGA Standard B.149.2-M91 Propane Installation Code, if it is fired with propane gas; and

(b) not discharge gases into the work environment that could cause gas concentrations to exceed the standards prescribed in section 2.10.8.

Subparagraph *b* of the first paragraph also applies to oil radiators used on construction sites.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.11.7; O.C. 1413-98, s. 19.

3.11.8. The installation of solid fuel heating equipment, including the mounting, clearances and air supply of such equipment, must comply with CAN/CSA Standard B365 Installation Code for Solid-Fuel-Burning Appliances and Equipment.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.11.8; O.C. 606-2014, s. 18.

3.11.9. Hot air and air retake ducts shall be constructed with non-flammable material and be sufficiently supported.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.11.9.

§3.12. Steam supply

3.12.1. Supplying of steam shall be done by means of equipments safely installed and put into operation.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.12.1.

3.12.2. Steam supply lines shall be clearly identified.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.12.2.

3.12.3. No one shall disconnect or repair a section of a steam line under pressure before ensuring that all precautions have been taken to prevent any hazard from occurring.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.12.3.

3.12.4. Any steamhose of a pile driving engine shall be held back by a steel cable or chain to avoid any whiplash.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.12.4.

3.12.5. Any steam supply system shall be insulated or protected so that no worker comes into contact with the piping.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.12.5.

§3.13. Compressed gas supply

3.13.1. The piping through which compressed air or gas circulates shall be protected against any shock or shall be clearly identified as to the nature of its content.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.13.1; O.C. 1413-98, s. 20.

3.13.2. Before disconnecting or repairing a connection or a section of piping through which compressed gas circulates, the piping supply shall be cut off and that piping shall be completely depressurized.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.13.2; O.C. 1413-98, s. 20.

3.13.3. **Air piping:** Connections for flexible piping sections through which compressed air circulates shall be equipped with one of the following devices:

(a) a chain or steel rope attached to each side of the connection;

(b) a self-locking device; or

(c) a locking device.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.13.3; O.C. 1959-86, s. 23; O.C. 1413-98, s. 20.

3.13.4. It is prohibited to store oxygen cylinders less than 6 m from a flammable gas cylinder or a combustible such as oil or grease, unless the oxygen cylinder is

separated from it by a wall made of non-combustible material, of a minimum height of 1.5 m and of a fire resistance of not less than 30 minutes.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.13.4; O.C. 1413-98, s. 20.

3.13.5. Any compressed gas cylinder shall:

(a) comply with the Act respecting pressure vessels (chapter A-20.01) and its regulations;

(b) be kept away from any heat source liable to increase the temperature of the contents above 55 ºC;

(c) be used only for the purposes for which it is intended; and

(d) be handled in such a way as not to damage it.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.13.5; O.C. 1413-98, s. 20.

3.13.6. A compressed gas cylinder shall be used only under the following conditions:

(a) it shall be placed upright so that the pressure limiting device is in constant and direct contact with the gaseous phase; and

(b) it shall be fastened to a rigid structure or held on a cart designed for the transportation of such cylinder, or on the vehicle it supplies.

O.C. 1413-98, s. 20.

3.13.7. When a compressed gas cylinder is not in use,

(a) it shall be held in place upright, with the valves on top; and

(b) the protective cap shall be in place.

O.C. 1413-98, s. 20.

3.13.8. Compressed gas cylinders connected in series by a manifold shall be supported and maintained together, forming a unit, with the use of a rack or another installation designed for that purpose and the valves and safety devices shall be protected against shock.

O.C. 1413-98, s. 20.

3.13.9. It is prohibited to lift compressed gas cylinders by the collar or the protective cap.

O.C. 1413-98, s. 20.

3.13.10. Any propane gas cylinder that is not connected for use, shall be stored outside and protected from unauthorized handling:

(a) in a place where no vehicles or mobile equipment are used or moved; or

(b) in an area protected by a continuous barricade or trestles of a minimum height of 0.7 m.

O.C. 1413-98, s. 20.

§3.14. Welding and cutting

3.14.1. Welding and cutting operations are prohibited close to combustible materials or in places containing flammable or explosive dusts, gases, or vapours, unless precautions are taken to prevent fire or explosions.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.14.1.

3.14.2. Any electric or gas welding or cutting operation and the installation, handling and maintenance of the equipment used for such operations shall comply with CAN/CSA Standard W117.2-M87 Safety in Welding, Cutting, and Allied Processes, except section 7.8.2.2.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.14.2; O.C. 1413-98, s. 21.

3.14.3. No cutting, welding or other work requiring an open flame shall be performed on a vessel, reservoir, pipe or other container where a flammable or explosive substance may be present, unless:

(a) air samples have been taken to indicate that the work may be done without danger; or

(b) procedures have been taken in accordance with subdivision 9.8 of CAN/CSA Standard W117.2-M87 Safety in Welding, Cutting, and Allied Processes.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.14.3; O.C. 1413-98, s. 22.

3.14.4. Protective screens against radiation shall be installed where electric arc welding or cutting operations are liable to constitute a danger to the health, safety and physical well-being of persons other than the welder.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.14.4; O.C. 1413-98, s. 23.

3.14.5. A welding torch using oxygen and a combustible gas shall be equipped with a gas-check valve and with a flame arrester at the combustible gas supply point and the oxygen supply point located in the torch handle.

O.C. 329-94, s. 61; O.C. 1413-98, s. 23.

3.14.6. The chassis or hood of a welding machine supplied by a public power utility shall be grounded in accordance with CSA Standard C22.10-1992 Canadian Electrical Code, Part I (16th Edition) plus the Québec Amendments (O.C. 1674-91, 91-12-04), and any future provision amending it.

O.C. 1413-98, s. 23.

3.14.7. A portable welding machine supplied by an internal combustion engine shall be grounded if it is provided with auxiliary outlets of 120 V or 240 V and if those outlets are used simultaneously with the welding process.

O.C. 1413-98, s. 23.

3.14.8. It is prohibited to use electrical conductors or a pipeline containing flammable gases or liquids as a welding or cutting current neutral circuit.

O.C. 1413-98, s. 23.

§3.15. Diggings, excavations and trenches

R.R.Q., 1981, c. S-2.1, r. 6, Sd. 3.15; O.C. 807-92, s. 8.

3.15.1. Public services:

(1) Before digging, the employer shall verify whether there is underground piping within the perimeter of the works to be carried out and, where applicable, situate its exact location on the ground.

(2) The piping may be temporarily disconnected, relocated or left in place, on condition that:

(a) the excavation procedure has been approved in advance by the road office or the utility company;

(b) a work method is adopted which prevents damage to conduits; and

(c) temporary supports are constructed.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.15.1; O.C. 807-92, s. 9.

3.15.2. Adjoining structure: Where there is any danger that the proposed digging might affect the stability of the adjoining structures and thus threaten the safety of workers, an adequate method of shoring or a sub-structure shall be provided, and a copy of the plans and specifications of such works shall be kept on the site.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.15.2; O.C. 807-92, s. 10.

3.15.3. (1) The employer shall ensure that the banks of an excavation or trench are shored solidly with quality materials in accordance with the plans and specifications of an engineer. Shoring is not required in the following cases:

(1) where the trench or excavation is dug out of solid rock or where no workers are required to descend into it;

(2) where there is no risk of the banks of the trench or excavation collapsing and where they slope less than 45º from a point less than 1.2 m from the bottom;

(3) where there is no risk of the banks of the trench or excavation collapsing and where an engineer attests that it is not necessary to shore up the banks, given the slope, nature and stability of the ground. A copy of the engineer's attestation shall be available on the construction site at all times.

Solid rock means rock that cannot be excavated otherwise than by blasting.

(2) The shoring shall extend 300 mm above the excavation, except where the trench dug in on a public road and must be covered over to allow for the passage of traffic during periods when works are not in progress.

When the shoring consists of unjoined stays, the 300 mm extension above the excavation shall be fitted with a plinth 300 mm wide.

(3) The banks shall be shored as the work progresses unless the shoring can be carried out before the digging.

(4) During the work the employer shall ensure that the walls are inspected and maintained so as to remove:

(a) rocks or materials liable to become detached therefrom;

(b) overhanging matter.

Where the banks have been subject to environmental or climatic stress, inspections shall be more frequent.

(5) It is prohibited:

(a) to place materials less than 1.2 m from the rim of the banks;

(b) to drive or park vehicles or machines less than 3 m from the rim of the banks, unless reinforced shoring has been used;

(c) to let banks deteriorate.

(6) Shoring shall be removed by an experienced person or under his supervision:

(a) from the bottom upwards; and

(b) only in places to which workers no longer have access.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.15.3; O.C. 807-92, s. 11.

3.15.4. Means of access and supervision: The employer shall ensure that ladders are placed in trenches at intervals of 15 linear metres or fractions thereof and in such manner as to follow the progress of the works.

Ladders shall rest on the bottom of the trench and extend at least 1 m above ground level.

When workers are in a trench, the employer shall post an experienced person at ground level so that he may detect faults, earth breaking away or any other source of danger.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.15.4; O.C. 807-92, s. 12.

3.15.5. Barriers, barricades or warning line:

(1) Continuous barriers or barricades of a minimum height of 0.7 m or a warning line as provided for in section 2.9.4.1, must be set up on the edge of any escarpment or digging:

(a) whose depth is more than 3 m; or

(b) which might constitute a hazard to workers or the public in general.

(2) *(Subsection revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.15.5; O.C. 995-91, s. 9; O.C. 606-2014, s. 19.

3.15.6. Drainage: Any excavation or trench shall be kept reasonably clear of water.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.15.6.

3.15.7. Caissons:

(1) No worker shall enter a caisson unless:

(a) he is protected by a steel shoring:

(i) that is sufficiently resistant;

(ii) covering all the depth above the worker who is working therein; and

(iii) extending at least 300 mm above ground level;

(b) he uses a boatswain's chair in accordance with section 3.9.17;

(c) *(paragraph revoked);*

(d) he is under the constant supervision of another worker for as long as he is in the trench;

(e) he accompanies each load of materials excavated if he cannot take shelter outside the caisson;

(f) any accumulation of water or mud inside the caisson is controlled;

(g) the provisions of Subdivision 3.21 have been complied with.

(2) No worker shall enter the belled area of a caisson unless such section is solidly shored or unless an engineer attests that such shoring is not necessary, given the nature and stability of the ground. A copy of that attestation shall be available on the construction site at all times.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.15.7; O.C. 807-92, s. 14; O.C. 329-94, s. 62; O.C. 35-2001, s. 21.

3.15.8. Shafts:

(1) The banks of shafts shall be shored in compliance with section 3.15.3.

(2) During shaft-sinking works, workers shall not enter the shaft unless the provisions of Subdivision 3.21 have been complied with.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.15.8; O.C. 807-92, s. 15.

3.15.9. Boring: A drilling machine shall be equipped with:

(a) pipes supplying water in holes during drilling; or

(b) a mechanized exhaust system for removing the dust created by drilling machines.

The first paragraph does not apply where:

(a) drilling is horizontal and in the open air;

(b) drilling is carried out by means of a jumbo that uses only one hammer drill; and

(c) the driller is more than 4 m from the opening of the hole and uses a breathing apparatus conforming to section 2.10.9.

For the purposes of subparagraph *b* of the second paragraph, “jumbo” means a drilling device consisting of a towmotor having one or more hydraulic arms each bearing a hammer drill.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.15.9; O.C. 807-92, s. 16.

3.15.10. Minimum age: No worker under 18 years of age is allowed to work in excavations or trenches.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.15.10.

§3.16. Handling and storage of materials

3.16.1. Generalities:

(1) All construction site materials shall be used, displaced or transported onto the site or unloaded from a vehicle or from a pile so as not to compromise the safety of workers and the public.

(2) The load imposed by storing materials on a permanent or temporary structure shall not exceed the permissible load.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.16.1.

3.16.2. Piling of materials:

(1) Piling of materials shall be done so that piles do not disturb:

(a) the spread of natural or artificial light;

(b) the good operation of machines and other installations;

(c) movement in passages, aisles, stairways, elevators, or near doors; and

(d) the efficient operation of fire prevention equipment.

(2) Materials shall not be piled against walls or partitions of buildings without ensuring that they can resist the lateral pressure.

(3) Materials shall not be piled to a height which might jeopardize the stability of the pile.

(4) The employer shall supply the necessary equipment to reach the height of piles to the person assigned to warehousing.

(5) The distance between the side of an opening in an opening in a floor or roof and the bottom of a pile of materials shall be more than the height of the pile except if a device prevents the falling of materials.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.16.2.

3.16.3. **Building lumber:** Reserves of building lumber shall be neatly piled. These piles shall be:

(a) supported at a certain height off the ground;

(b) disposed in horizontal layers, criss-crossed and slightly inclined; and

(c) stabilized by means of transversal supports or wedges, if the piles are more than 1.2 m high.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.16.6; O.C. 329-94, s. 66.

3.16.4. **Masonry materials:** Masonry units shall be stacked:

(a) on planks, a platform or other level base;

(b) in layers covering the entire area of the stacks;

(c) in such a way that the height of the vertical face of the stacks does not exceed 1.8 m;

(d) in tiers, when the height of the stockpiling exceeds 1.8 m;

(e) with wooden transversal supports between the layers to prevent the pile from crumbling, if the height of the pile exceeds 1.8 mm;

(f) bound together, if necessary, so as to ensure the stability thereof.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.16.7; O.C. 329-94, s. 66.

3.16.5. **Pipes:** Pipes shall be stacked:

(a) on racks or solid shelves;

(b) on wooden blocks provided with tappets at both ends; or

(c) on metal bars of which both ends are bent upwards.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.16.8; O.C. 329-94, s. 66.

3.16.6. **Bagged materials:** Bagged materials shall:

(a) be stacked by cross-piling the bags to form layers piled not higher than 10 bags unless:

(i) the bags are stored in reservoirs or enclosures; and

(ii) the sides of the piles are supported by the walls of the reservoirs or enclosures; and

(b) be removed from the piles in such a way that the top of the pile remains horizontal.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.16.9; O.C. 329-94, s. 66.

3.16.7. **Bound objects:**

(1) When drums or barrels are stacked:

(a) full, standing upright, the height of the piles shall be limited and 2 planks shall be laid side by side on each row before proceeding on to the next row;

(b) empty, lying on their sides, the piles shall be symmetrical and stable, and all units in the bottom row shall be carefully wedged.

(2) Subsection 1 also applies to large-diameter pipes, to rolls of paper or to any other object having a circular cross-section.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.16.10; O.C. 329-94, ss. 65 and 66.

3.16.8. **Hand lifting and carrying:**

(1) Mechanical apparatus shall be provided and used for carrying material, when the safety of the worker is jeopardized.

(2) *(Subsection revoked).*

(3) Workers assigned to the handling of material shall be instructed as to the manner of lifting and carrying loads.

(4) Where an inclined plane is used for raising or lowering heavy objects, the following steps shall be followed:

(a) avoid standing on the lower end of the plane; and

(b) control the displacement of such object by means of cables, blocks, wedges or other devices.

(5) Where rollers are utilized for moving objects, tools designed for this type of work shall be used instead of hands or feet to change the position of the moving rollers.

(6) Suitable protective equipment in accordance with Subdivision 2.10 shall be used for the manual transportation of objects having sharp and dangerous edges, and for the handling of burning, caustic or corrosive substances.

(7) The handling of heavy objects by a crew shall be done with signals that are well understood and designed to ensure uniform manoeuvering.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.16.3; O.C. 329-94, ss. 63 and 66.

3.16.9. **Conveyors:**

(1) The resistance of a structural element of a conveyor shall be calculated so that it supports the loads and overloads to which it is exposed.

(2) A mobile element shall be protected in accordance with section 3.10.13 if it is located less than 2 m away from an accessible floor.

(3) A conveyor installed above a walkway or a work area shall be equipped with a protector to prevent objects from falling.

(4) An aerial conveyor in which workers are required to travel shall be equipped with a runway along its entire length and with an emergency stopping device installed at each work location.

(5) It is forbidden for a worker to climb on a conveyor or to stand on the structure supporting it.

(6) A vertical bucket conveyor shall be surrounded by a full protector:

(a) covering the entire length; and

(b) equipped with a door or with a detachable part for inspection, cleaning and repairs; the opening of this door or the removal of a detachable part shall produce automatic stopping of the conveyor.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.16.4; O.C. 329-94, ss. 64 and 66; O.C. 606-2014, s. 20.

3.16.10. Handling, storage and use of hazardous products

(1) The storage and handling of hazardous products within the meaning of the Hazardous Products Information Regulation (chapter S-2.1, r. 8.1) must be carried out in such a way as to prevent them from spilling or catching fire. The following measures must therefore be taken:

(a) any hazardous products which, in mixing with other substances, may cause fires or explosions or may give off flammable or toxic gases must be stored separately;

(b) receptacles, piping and apparatuses must be kept in good condition;

(c) floors or shelves onto which a product has been spilled must be cleaned immediately.

(2) Only the quantity of flammable liquid and combustibles contained in safety bottles and necessary for one work day may be stored in a building under construction, unless it can be stored in a ventilated room having a fire-resistance of at least 2 hours.

(3) Where a hazardous product is transferred from one container to another, the receptacle used must be safe for use with the product transferred.

(4) In addition to conforming to the provisions of section 3.13.5, any compressed gas cylinder must not be:

(a) lifted with slings or magnets; or

(b) exposed to shocks or susceptible to falls.

(5) Oxygen must not be used for the following purposes:

(a) operating compressed-air tools;

(b) ventilation;

(c) obtaining pressure;

(d) cleaning;

(e) starting internal combustion engines.

(6) Corrosive materials must be handled with care and must be stored:

(a) away from areas in which the risk of fire is high;

(b) away from combustive substances;

(c) away from direct sunlight;

(d) in cool and well ventilated areas;

(e) in receptacles that are kept closed.

(7) Toxic or dangerously reactive substances must be stored:

(a) away from areas in which the risk of fire is high and away from heat sources;

(b) away from combustive substances;

(c) in cool and well ventilated areas.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.16.5; O.C. 995-91, s. 10; O.C. 329-94, s. 66; S.Q. 2015, c. 13, s. 15.

3.17 *(Revoked)*

R.R.Q., 1981, c. S-2.1, r. 6, div. 3.17; O.C. 425-2010, s. 5.

3.17.1. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.17.1; O.C. 1959-86, s. 24; O.C. 425-2010, s. 5.

3.17.2. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.17.2; O.C. 425-2010, s. 5.

3.17.3. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.17.3; O.C. 425-2010, s. 5.

3.17.4. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.17.4; O.C. 425-2010, s. 5.

3.17.5. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.17.5; O.C. 425-2010, s. 5.

3.17.6. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.17.6; O.C. 425-2010, s. 5.

3.17.7. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.17.7; O.C. 425-2010, s. 5.

3.17.8. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.17.8; O.C. 425-2010, s. 5.

3.17.9. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.17.9; O.C. 425-2010, s. 5.

§3.18. Demolition

3.18.1. **Requirements prior to demolition:**

(1) The principal contractor must send to the Commission a demolition notice giving the method used, at least 7 days before the beginning of wrecking work on a building or structure. In emergency cases the notice must be sent as soon as possible before the beginning of wrecking work; such emergency must be proven by the principal contractor.

Wrecking of any prestressed or poststressed concrete slab or structure shall be made according to a method approved by an engineer qualified in the field.

(2) Where mechanical wrecking is used, the notice must include the power of the machine, weight of the wrecking ball, space reserved for debris, successive wrecking steps, restrictions from and agreements with public utilities.

(3) The consumer supply mains for water, gas and electricity and the other services shall be cut off at the place and in the way specified by the authorities involved. These service mains shall be relocated to avoid any damage and shall not constitute a hazard for workers and the public.

(4) Any building or part of building in demolition shall be solidly braced or supported to avoid any collapse which could be dangerous for the workers.

(5) Provision shall be made for the necessary supports with respect to adjoining properties in order to ensure their stability and to avoid any collapse.

(6) Any glass shall be removed from outside openings prior to any demolition operations.

(7) Any sidewalk or street running alongside a demolition site shall be isolated from the latter by a covered sidewalk closed on the demolition side as stipulated in section 2.7.2. However, this covered sidewalk may be replaced by a barrier if this sidewalk or street is located at a distance exceeding half the height of the building, but this building shall not measure more than 7.5 m in height.

(8) *(Subsection revoked).*

(9) The public shall be prevented from entering a building which is marked for demolition.

(10) Construction signs shall be installed wherever the public may be exposed to any danger.

(11) All demolition works shall be done under the continuous supervision of a competent foreman.

(12) No employer shall employ for demolition work any worker younger than 18 years of age.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.18.1; O.C. 1959-86, s. 25; O.C. 995-91, s. 11; O.C. 329-94, s. 67.

3.18.2. **Requirements during demolition:**

(1) During demolition, the following precautions shall be taken:

(a) dust shall be kept down;

(b) debris shall not be burnt on the site without authorization;

(c) floors shall not be overloaded beyond their capacity;

(d) solid supports shall be provided in areas where there are gins, derricks and other similar hoisting apparatus;

(e) any scaffolding or platform shall be erected in compliance with Subdivisions 3.7 and 3.9 of this Code;

(f) materials with protruding nails shall be stacked or removed or nails shall be removed or hammered in;

(g) entrances and exits which are protected against hazards shall be provided;

(h) in buildings more than 7.5 m high, exterior openings shall be boarded up within 6 m of any shaft or chute for debris;

(i) floor openings below the demolition level which are not being used for the removal of debris shall be boarded up;

(j) stairways and ramps shall be kept as long as possible; and

(k) Subdivision 3.1 applies even when demolition works are suspended.

(2) Demolition works shall be done with the following provisions:

(a) demolition work shall proceed systematically from the roof down to the ground, unless another demolition procedure has been approved by an engineer;

(b) demolition and cleaning of a storey shall be finished before its supports give way or are removed;

(c) the steel frame may be left in place during demolition of the masonry. However, any material shall be removed from the framework as the removal of the masonry progresses;

(d) no beam, column or other structural part may be cut or separated from the others without having been previously separated from all supported loads;

(e) solid shores for the remaining structure shall be provided during the removal of masonry or concrete floors. Plankings or walkways shall be provided for workers and the area below such work closed to workers;

(f) masonry shall be demolished in reasonably level layers and not in large masses, so as to avoid affecting the solidity of the structure and its supports;

(g) cornices and other projections shall be supported until removed;

(h) no worker shall stand on any wall, pier or chimney unless scaffolding is provided on any side at a distance not exceeding 3 m below the level at which he is working;

(i) it is forbidden to leave without protection any wall, chimney or other structural part which might collapse under the effect of wind or vibrations;

(j) the demolition site shall be constantly inspected during the course of the works to prevent any eventual accident; and

(k) sand layers shall be used to break the fall of materials that pose a danger to the health and safety of workers.

(3) Removal, and transportation of debris shall be carried out in the manner described in section 3.2.2.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.18.2; O.C. 329-94, s. 68.

3.18.3. **Mechanical method of demolition:** Demolition by smashing walls or floors with a swinging weight, mechanical shovel, or other similar equipment shall be carried out according to the following provisions:

(a) the section which is to be mechanically demolished shall not be higher than 25 m from the ground;

(b) whenever the equipment is in operation, access to the section to be demolished is prohibited to all workers, except the operators of that equipment;

(c) if the public has access to the part to be demolished, a protective wall shall be placed around the building at a distance at least equal to 1.5 times the height of the part to be demolished or, if the public does not have access thereto, a demolition zone shall be marked off around the building by hazard signs placed at a distance equivalent to that prescribed for the protective wall;

(d) it shall be possible to manipulate the controls of the equipment used in such method of demolition at a safe distance from the points of impact; and

(e) where a swinging weight is used, the supporting cables shall be of such a length that it is not possible for the weight to swing against any structure other than the structure being demolished.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.18.3; O.C. 1959-86, s. 26; O.C. 329-94, s. 69; O.C. 1413-98, s. 25.

3.18.4. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.18.4; O.C. 1959-86, s. 27; O.C. 329-95, s. 70.

3.18.5. **Requirements following demolition:** The following measures shall be taken after demolition:

(a) cellars and excavations shall be rendered inaccessible to the public by protective walls, unless they have been completely backfilled to grade;

(b) streets, sidewalks or public roads shall be free from all temporary obstruction required by the work and shall be returned to their original state; and

(c) the demolition site shall be left in such condition that no accident, fire or health hazard has been created.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.18.5; O.C. 1413-98, s. 26.

3.18.6. Sections 3.18.1, 3.18.2 and 3.18.5 apply to all types of demolition.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.18.6.

§3.19. Work on stilts

3.19.1. Work carried out on stilts or other similar apparatus is forbidden at all times.

R.R.Q., 1981, c. S-2.1, r. 6, s. 3.19.1.

§3.20. Sandblasting

O.C. 1959-86, s. 28.

3.20.1. The wearing of an air-supplied hood as specified in the Guide des appareils de protection respiratoire utilisés au Québec, published by the Institut de recherche Robert-Sauvé en santé et en sécurité du travail, gloves and clothing designed to ensure protection from dust and abrasive or metal projections is compulsory for any worker using an abrasive air blaster unless the worker is isolated from the process.

O.C. 1959-86, s. 28; O.C. 885-2001, s. 368.

3.20.2. **Air supply:** The air supplied to the hood may be natural and must comply with CAN3-Z180.1-M85 Breathable Compressed Air: Production and Distribution, and in cases where such air is not made on the premises of the job-site, it must be certified by the manufacturer as complying with the standard.

O.C. 1959-86, s. 28; O.C. 885-2001, s. 369.

3.20.3. **Air flow:** The air flow supplying the hood must be sufficient to prevent the admission of dust and suspended particles in the air breathed by the workman and must not be less than 165 litres per minute or greater than 430 litres per minute.

O.C. 1959-86, s. 28.

3.20.4. **Maintenance of equipment:** The employer must maintain the equipment as recommended by the manufacturer and keep it clean.

O.C. 1959-86, s. 28.

3.20.5. **Ventilation:** Where work with sandblasting is performed indoors, the area must be isolated and ventilated by extraction.

O.C. 1959-86, s. 28.

3.20.6. **Abrasive blasting - Changing room and shower:** For abrasive blasting, the employer must provide workers with a changing room that complies with section 3.2.11 and a shower that complies with section 3.2.15.

O.C. 885-2001, s. 370; O.C. 393-2011, s. 15.

§3.21. Work in confined space

O.C. 1959-86, s. 28.

3.21.1. Before work begins in a confined space, the principal contractor, together with the employer, specifies in writing:

(a) the tools required for the work;

(b) the equipment installed or to be installed in the confined space and the measures to be taken for its installation, use, maintenance and protection or to move it;

(c) the pipe and conduits entering the confined space;

(d) the hazards, and corresponding safety measures to be taken according to the work;

(e) contaminants which may be found in or around the confined space;

(f) the life saving devices and equipment needed and the corresponding emergency measures.

That information must be available on the job-site.

O.C. 1959-86, s. 28.

3.21.2. In confined spaces, the employer must take the contaminant concentration readings mentioned in subparagraph *e* of the first paragraph of section 3.21.1 and make sure that no worker, even when wearing protective breathing equipment, enters a confined space containing or which may contain:

(a) oxygen in a proportion lower than 19.5% or higher than 23%;

(b) flammable gas or vapour with a concentration higher than 25% of the lower explosion limit;

(c) contaminants in the air with a concentration higher than the threshold limit values mentioned in Schedule I to the Regulation respecting occupational health and safety (chapter S-2.1, r. 13);

(d) any other contaminant in a concentration which could be hazardous to a workman's health.

O.C. 1959-86, s. 28; O.C. 885-2001, s. 377.

3.21.3. **Concentration readings:** The employer must ensure that the concentration readings prescribed in section 3.21.2 are:

(a) taken every 2 hours in the most hazardous spots, by a person trained for such purpose;

(b) taken so as to obtain a precision equal to that yielded by the methods described in section 44 of the Regulation respecting occupational health and safety (chapter S-2.1, r. 13);

(c) entered in the record on the job site, except if the recordings are made with continuous recorders equipped with automatic alarms setting off when the quality of air does not meet the requirements of section 3.21.2.

O.C. 1959-86, s. 28; O.C. 885-2001, s. 371.

3.21.4. The employer must install a ventilation system powerful enough to ensure compliance with the concentrations prescribed in paragraphs *a*, *b*, *c*, and *d* of section 3.21.2 in and around the confined space.

O.C. 1959-86, s. 28; O.C. 329-94, s. 71.

3.21.5. The employer must ensure that measures are taken to prevent workmen who are not assigned to work in a confined space from entering that space.

O.C. 1959-86, s. 28.

3.21.6. **Emergency:** Where the environment is unhealthy and the situation endangers the life or safety of a person, the employer:

(a) must ensure that the emergency measures prescribed in section 3.21.1 are taken; and

(b) may, despite section 3.21.2, allow a workman to enter the confined space if such workman has had special training for such circumstances and if he is informed of the hazards he will be exposed to.

O.C. 1959-86, s. 28.

§3.22. Work in isolated locations

O.C. 1959-86, s. 28.

3.22.1. Where a workman works alone in an isolated location where it is impossible for him to call for help, the employer must provide an efficient intermittent or continuous watch.

O.C. 1959-86, s. 28.

§3.23. Work liable to produce asbestos dust emissions

O.C. 54-90, s. 3.

3.23.0.1. For the purposes of this subdivision, any material and product contains asbestos where the asbestos concentration is of at least 0.1%.

In that respect, the second paragraph of section 69.5 of the Regulation respecting occupational health and safety (chapter S-2.1, r. 13) applies.

O.C. 476-2013, s. 5.

3.23.1. This subdivision applies to any construction site where work liable to produce asbestos dust emissions is carried out.

O.C. 54-90, s. 3.

3.23.1.1. For the purposes of this subdivision,

“protective clothing” means clothing that:

(a) resists the penetration of asbestos fibres;

(b) covers the worker's body, excluding his face, hands and feet;

(c) is closed at the neck, wrists and ankles;

“work carried out outside” means work entirely carried out elsewhere than in a building used, having been used or intended to be used to shelter or receive persons, animals or things.

O.C. 459-99, s. 1.

3.23.2. For the purposes of this subdivision, the following categories of sites are established:

(1) sites where low-risk work is carried out:

(a) the installation, handling or removal of manufactured goods containing asbestos, provided they are and remain in a non-friable condition, such as:

(i) vinyl tiles;

(ii) acoustic tiles;

(iii) gaskets;

(iv) seals;

(v) asbestos cement products;

(b) the sawing, cutting, shaping or drilling of a product mentioned in subparagraph *a* of this paragraph with a hand tool or a power tool fitted with a dust-collection device equipped with a high-efficiency filter;

(c) the removal of drywall installed with asbestos joint-filling compounds;

(2) sites where moderate-risk work is carried out:

(a) the total or partial removal of false ceilings for the purpose of gaining access to a work area where friable materials containing asbestos are found;

(b) the enclosure of friable material containing asbestos, subject to subparagraph *c* of paragraph 3;

(c) the removal of friable material containing asbestos where, in the removal process, the work area is sealed off from the worker's breathing area;

(d) any work that is liable to produce asbestos dust emissions and that is not classified as low or high-risk;

(e) the handling or removal of small quantities of friable material containing asbestos having a volume of debris not exceeding 0.03^{3} for each minor renovation or regular specific maintenance job;

(3) sites where high-risk work is carried out:

(a) subject to subparagraphs *c* and *e* of paragraph 2, the handling or the removal of friable material containing asbestos;

(b) the cleaning or removal of a ventilation system, including rigid ducts, in buildings where the insulation contains asbestos applied by spraying;

(c) the enclosure of friable material containing asbestos by the spray application of a sealant;

(d) the repair, alteration or demolition of kilns, boilers or similar devices made entirely or partly of refractory materials containing asbestos;

(e) the use of a power tool not fitted with a dust-collection device equipped with a high-efficiency filter to grind, cut, drill or abrade a product mentioned in subparagraph *a* of paragraph 1;

(f) subject to subparagraph *e* of paragraph 2, the handling or removal of friable material containing crocidolite or amosite;

(g) subject to subparagraph *e* of paragraph 2, the total or partial removal of false ceilings on which friable materials containing asbestos is found.

O.C. 54-90, s. 3; O.C. 459-99, s. 2.

3.23.3. The employer shall determine the types of asbestos present in the materials before undertaking work liable to generate asbestos dust.

O.C. 54-90, s. 3; O.C. 459-99, s. 3.

3.23.3.1. The use of crocidolite or amosite or of a product containing either of those materials is prohibited, except where their replacement is not reasonable or feasible in practice.

O.C. 459-99, s. 3.

3.23.3.2. Before demolition work is undertaken, materials liable to generate asbestos dust shall be removed.

O.C. 459-99, s. 3.

3.23.4. The spray application of a mixture of friable materials containing asbestos and the installation of friable insulating materials containing asbestos are prohibited.

O.C. 54-90, s. 3; O.C. 459-99, s. 4.

3.23.5. The use of compressed air is prohibited in a work area covered by this subdivision, except compressed air necessary to operate a respirator.

O.C. 54-90, s. 3.

3.23.6. Smoking, eating, drinking or chewing any substance in a work area covered by this subdivision is prohibited.

O.C. 54-90, s. 3; O.C. 459-99, s. 5.

3.23.7. Before undertaking work liable to emit asbestos dust, the employer must train the worker and inform him of the risks, prevention methods and safe working methods. The training and information program must contain at least:

(1) the employer's general obligations;

(2) the effects of asbestos on health;

(3) the standards applicable and the sampling to be carried out;

(4) the worker's rights and obligations;

(5) individual and common protective devices and equipment;

(6) the tasks to be carried out and the equipment and tools to be used;

(7) safe working methods and procedures;

(8) prevention and verification methods.

The information and training provided for in the first paragraph must have previously been established in writing.

O.C. 54-90, s. 3; O.C. 459-99, s. 6.

3.23.8. Before undertaking in a building work covered by this subdivision:

(1) all furniture shall be removed from the work area or protected by airtight film;

(2) all friable materials that contain asbestos and that are spread in the work area shall be removed in accordance with either of the following methods:

(a) after having wet those materials thoroughly;

(b) with a vacuum cleaner equipped with a high-efficiency filter.

O.C. 54-90, s. 3; O.C. 459-99, s. 7.

3.23.9. Friable materials that contain asbestos and that are likely to be spread shall be kept thoroughly wetted for the duration of the work, except where the procedure may create a danger to the health, safety and physical integrity of the worker and where the danger cannot be eliminated by another means.

O.C. 54-90, s. 3; O.C. 459-99, s. 7.

3.23.9.1. Before moving kilns, boilers or similar devices made entirely or partly of refractory materials containing asbestos, the employer shall cover them entirely with an airtight film.

O.C. 459-99, s. 7.

3.23.10. During work, debris of materials containing asbestos shall be placed in airtight containers appropriate to the type of debris, regularly during the work shift and at the end of the work shift. Debris shall be removed by means of a vacuum cleaner equipped with a high-efficiency filter or by wetting the debris before it is removed.

The containers shall be placed in such a way as to cause no inconvenience.

Where work is being carried out outside, the employer shall also prevent the dispersal of the debris of materials containing asbestos by using airtight film or any other equivalent means.

O.C. 54-90, s. 3; O.C. 459-99, s. 7.

3.23.11. Upon completion of work where airtight drop sheets were used to protect the work area, drop sheets intended for re-use must be cleaned with a vacuum cleaner equipped with a high-efficiency filter. Drop sheets intended for disposal must first be wetted, then folded so that they hold all the dust that they have collected and, finally, placed in an airtight container.

O.C. 54-90, s. 3.

3.23.12. Upon completion of work covered by this subdivision, the work area and the area around it must be cleaned with a vacuum cleaner equipped with a high-efficiency filter or by damp wiping the surfaces and then cleaning them.

O.C. 54-90, s. 3.

3.23.13. A label must be affixed to any receptacle containing asbestos materials, whether new or used, unless the receptacle has already been labelled by a supplier in accordance with the Hazardous Products Regulations (SOR/2015-17).

The label must be permanently affixed and legible and must bear the following indications:

Material containing asbestos

Toxic by inhalation

Keep container tightly closed

Do not breathe the dust

O.C. 54-90, s. 3; O.C. 459-99, s. 8; S.Q. 2015, c. 13, s. 16.

3.23.14. Any worker working in a work area covered by this subdivision must wear protective footwear that meets the requirements of section 2.10.6 and that is fitted with soles that do not slip on wet surfaces.

O.C. 54-90, s. 3; O.C. 459-99, s. 9.

3.23.14.1. On a construction site where low-risk work is being carried out, except for the work referred to in subparagraph *a* of paragraph 1 of section 3.23.2, an employer shall ensure that any worker present in the work area wears a respirator that meets either of the following standards:

(1) it is specified in the Guide des appareils de protection respiratoire utilisés au Québec, published by the Institut de recherche Robert-Sauvé en santé et en sécurité du travail;

(2) it is certified at a minimum FFP2 in accordance with EN-149, Respiratory protective devices — Filtering half masks to protect against particles — Requirements, testing, marking of the European Committee for Standardization, by a laboratory recognized by the latter.

That equipment shall be selected, adjusted, used and cared for in accordance with CSA Standard Z94.4-93 Selection, Use, and Care of Respirators.

O.C. 459-99, s. 10; O.C. 885-2001, s. 372.

3.23.15. On a construction site where moderate-risk work is being carried out, an employer, in addition to the obligations provided for in sections 3.23.3 to 3.23.14, shall comply with the following:

(1) the wearing of a reusable protective respiratory apparatus equipped with a high efficiency filter for protection from asbestos as specified in the Guide des appareils de protection respiratoire utilisés au Québec, published by the Institut de recherche Robert-Sauvé en santé et en sécurité du travail, is compulsory for any worker present in the work area; the equipment shall be selected, adjusted, and maintained in accordance with CSA Standard Z94.4-93 Selection, Use and Care of Respirators;

(2) notwithstanding paragraph 1, a respirator that complies with the provisions of paragraph 1 or 2 of section 3.23.16 shall be worn in the following cases:

(a) for the handling or removal of friable material containing crocidolite or amosite;

(b) for any work covered by subparagraph *d* of paragraph 2 of section 3.23.2;

(3) protective clothing shall be worn by any person present in the work area and the clothing worn shall be used exclusively for carrying out such work;

(3.1) the employer must provide workers with a changing room that complies with section 3.2.11;

(4) the employer shall ensure that the protective clothing is clean and dry at the beginning of each day on which it is to be used;

(5) the employer shall cause reusable protective clothing to be washed or shall cause it to be cleaned by means of a vacuum cleaner equipped with a high-efficiency filter before reuse;

(6) where a worker wears winter work clothes, the employer shall provide disposable protective clothing so that the worker can at all times wear 2 layers of disposable protective clothing over his winter work clothes;

(7) where a person wearing disposable protective clothing leaves the work premises referred to in this section, the employer shall ensure that the clothing is placed in a plastic bag supplied by him and he shall ensure that the bag is hermetically sealed immediately;

(8) the employer shall ensure that a worker does not wear or carry his work clothes and protective footwear outside the work premises referred to this section, unless they have been washed or cleaned by means of a vacuum cleaner fitted with a high-efficiency filter;

(9) during work to recover friable materials containing asbestos, the employer shall isolate the work area with an enclosure made of materials impervious to asbestos fibres;

(10) during work to remove false ceilings for the purpose of gaining access to a work area where friable materials containing asbestos are found, the employer shall isolate the work area with an enclosure made of materials impervious to asbestos fibre and protect the building's ventilation system from any contamination;

(11) the employer shall post a sign at the entrance to each work area. That sign shall be yellow, 500 mm high by 350 mm wide and shall indicate in black letters of the size specified below the following information in the following order:

Information	**Size of letters**
ASBESTOS	50 mm
DANGER	40 mm
Do not breathe dust	15 mm
Protective equipment must be worn	15 mm
No admittance	15 mm
Inhaling asbestos dust may be harmful to your health	10 mm;

(12) where there is no enclosure such as referred to in paragraphs 9 and 10, the work area shall be marked off by hazard signs.

O.C. 54-90, s. 3; O.C. 459-99, s. 11; O.C. 885-2001, s. 373; O.C. 393-2011, s. 16.

3.23.16. On a construction site where high-risk work is being carried out, other than the work mentioned in section 3.23.16.1, an employer shall fulfil the obligations provided for in section 3.23.15, except those provided for in paragraphs 1, 2 and 5 of that section, and the following obligations:

(1) a half-facepiece or full-facepiece respirator specified in the Guide des appareils de protection respiratoire utilisés au Québec, published by the Institut de recherché Robert-Sauvé en santé et en sécurité du travail, shall be worn by any worker using electric tools not fitted with a dust collector equipped with a high-efficiency filter or by any worker handling thoroughly wetted friable materials containing asbestos; the respirator shall be selected, adjusted, used and cared for in accordance with CSA Standard Z94.4-93 Selection, Use and Care or Respirators and shall comply with one of the following types:

(a) a powered air-purifying respirator with a high-efficiency particulate filter;

(b) a supplied-air respirator operated in continuous-flow positive-pressure mode or in a pressure-demand mode with positive pressure;

(2) notwithstanding paragraph 1, a supplied-air and continuous-flow positive-pressure adjusted, or pressure demand and positive pressure, half-facepiece or full-facepiece respirator, specified in the Guide des appareils de protection respiratoire utilisés au Québec, published by the Institut de recherché Robert-Sauvé en santé et en sécurité du travail, shall be worn by any worker who is in one of the following situations:

(a) in the presence of friable materials containing asbestos that are not thoroughly wetted;

(b) in the presence of crocidolite or amosite, where the readings made under paragraph 4 give concentrations equal to or greater than 10 fibres/cm^3;

(3) before work begins, the employer and the principal contractor shall identify in writing the following information and make it available in the work area:

(a) the equipment and tools necessary to carry out the work and the measures to be taken in order to install, use, care for, protect and move them;

(b) the hazards and the health and safety measures to be taken depending on the work to be carried out;

(c) the types of asbestos and other contaminants that may be encountered during the work;

(d) the individual and group protective devices and equipment that must be used;

(e) the measures to be taken in case of emergency, which shall include, in particular, locating emergency exits in the work area and the exits through which the building can be evacuated;

(4) the employer shall take a sample of the concentration of airborne breathable asbestos fibres in the work area, in accordance with section 44 of the Regulation respecting occupational health and safety (chapter S-2.1, r. 13), at least once per shift during the work, send it immediately to a laboratory for analysis and take reasonable measures to obtain the results of those analyses within 24 hours; the results shall be recorded in a register that is available on the work premises during all the work;

(5) the employer shall ensure that reusable protective clothing is washed before it is reused;

(6) the employer must provide workers working in the work area with a double changing room that complies with section 3.2.13;

(7) the employer shall ensure that any worker leaving the work area follows the decontamination procedure described below:

(a) workers shall remove their disposable protective clothing in the work clothes changing room and treat them as waste or shall remove their reusable protective clothing and put it immediately in a receptacle filled with water or, where clothes are washed in the work clothes changing room, in the tub of a washer filled with water;

(b) workers shall remove their work clothes and protective footwear in the work clothes changing room and those articles, before being put away, shall be washed or cleaned by means of a vacuum cleaner equipped with a high-efficiency filter;

(c) workers shall wash and remove their safety helmets and respirators under the shower; disposable cartridges shall be thrown into a garbage can and the other parts of the respirator shall be washed under the shower and then hung to dry in a clean area free of dust;

(d) workers shall shower immediately before entering the street clothes changing room;

(e) work clothes and protective footwear shall be washed before being transported outside the work premises referred to in this section; where the work clothes are winter clothes, they shall be cleaned by means of a vacuum cleaner equipped with a high-efficiency filter and placed in an airtight bag and the employer shall cause them to be dry cleaned and water-proofed;

(8) the work area and the work clothes changing room shall be sealed off from the rest of the building by an airtight enclosure that has an exhaust ventilation system. The ventilation system shall meet the following standards:

(a) it shall be equipped with a high-efficiency filter;

(b) it shall provide at least 4 changes of air per hour;

(c) it shall ensure negative pressure of between 1 and 4 Pa;

(9) notwithstanding paragraph 8, when work is done outdoors, an airtight enclosure is required only for the work clothes changing room; in such case, the travel area of workers that connects the work area and the work clothes changing room shall be marked off by hazard signs;

(10) at the beginning and end of each shift, the employer shall ensure that the airtight enclosure is in good condition. If the enclosure is punctured or becomes defective, the work shall cease until the enclosure is repaired;

(11) the air vents of the building's ventilation system shall be sealed off from the work area before the work begins and shall be kept sealed during the work;

(12) upon completion of the work, it shall be prohibited to dismantle the airtight enclosure or to remove the airtight drop sheets before the concentration of airborne respirable asbestos fibres in the work area drops to less than 0.01 fibres/cm^3. That reading shall be taken in accordance with section 44 of the Regulation respecting occupational health and safety.

O.C. 54-90, s. 3; O.C. 459-99, s. 11; O.C. 885-2001, s. 374; O.C. 393-2011, s. 17.

3.23.16.1. An employer handling or removing friable materials containing asbestos whose volume of debris exceeds 0.03 m^3 without exceeding 0.3 m^3, for each minor renovation or specific regular maintenance work, shall fulfil the obligations provided for in paragraphs 3, 3.1, 4 and 6 to 12 of section 3.23.15, those provided for in paragraphs 1 and 2, in subparagraph *e* of paragraph 7 and paragraphs 10 and 11 of section 3.23.16, as well as the following obligations:

(1) the employer shall ensure that disposable protective clothing is used;

(2) the work area shall be sealed off from the rest of the building by an airtight enclosure that has a ventilation system equipped with a high-efficiency filter; notwithstanding the foregoing, where work is done outdoors, the airtight enclosure is not required;

(3) the following decontamination procedure shall be applied before any worker leaves the work area:

(a) the enclosure shall be cleaned by wetting or by means of a vacuum cleaner equipped with a high-efficiency filter;

(b) after removal of protective clothing, the respirator and the safety helmet shall be cleaned by wetting;

(c) the worker shall wash the parts of his body that have been exposed to dust containing asbestos.

O.C. 459-99, s. 11; O.C. 393-2011, s. 18.

§3.24. Steel structure erection or dismantling work

O.C. 391-2011, s. 2.

3.24.1. **Scope:** This subdivision applies to work for the erection or dismantling of a steel structure including any sheet-metal apron, but excluding work to erect or dismantle an electrical transformer station, a telecommunications tower or a power line tower used for electric power transportation or distribution.

O.C. 391-2011, s. 2.

3.24.2. **Signalmen and telecommunications system:** A telecommunications system used by a signalman who guides a maneuver under subsection 2 of section 3.10.5 must be bidirectional, hands-free and transmit on a radio frequency dedicated exclusively to the work in progress.

The work in progress must be interrupted in case of telecommunications system failure.

O.C. 391-2011, s. 2.

3.24.3. **Means of access:** The means of access provided for in Subdivisions 3.5. and 3.6 must be installed so that horizontal movements of workers on trusses, beams and joists do not exceed 30 m.

O.C. 391-2011, s. 2.

3.24.4. **Rescue following a fall:** Within 12 months after 5 May 2011, the employer must, before the beginning of the work,

(1) develop and test a rescue procedure that allows the rescue, within 15 minutes, of a worker who, following a fall, is suspended in a safety harness;

(2) provide the equipment necessary for the implementation of the rescue procedure;

(3) ensure that, if rescue is effected on ropes, the equipment used

(a) complies with one of the following standards:

(i) Standard on Fire Service Life Safety Rope and System Components, NFPA 1983, as it applies when the ropes are manufactured;

(ii) Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components, ANSI/ASSE Z359.4, as it applies when the ropes are manufactured; or

(iii) the standards in section 2.10.12; and

(b) is used exclusively for that purpose, except the safety harness; and

(4) ensure that a rescuer, who was trained to rescue a worker suspended in a safety harness, is present at all times on the work premises. The nature of the rescuer's

work must not compromise a quick and efficient intervention. A rescuer may also act as first-aider if so provided in the rescue procedure.

In addition, a rescue drill for a worker suspended in a safety harness after a fall must be carried out every 6 months.

O.C. 391-2011, s. 2.

3.24.5. **Presence of a first-aider:** Despite section 7 of the First-aid Minimum Standards Regulation (chapter A-3.001, r. 10), during the work, the principal contractor must ensure that one first-aider within the meaning of that Regulation is present at all times on the work premises.

O.C. 391-2011, s. 2.

3.24.6. **Protruding parts:** Where studs or other protruding parts constitute a danger for workers on the steel structure, a temporary sidewalk must be installed to ensure the safe movement of workers.

O.C. 391-2011, s. 2.

3.24.7. **Plans and procedures:** The plans and procedures provided for in this subdivision must be kept on the work premises and be accessible.

O.C. 391-2011, s. 2.

Erection of a steel structure

O.C. 391-2011, s. 2.

3.24.8. **Preparation of the work area:** Before the beginning of the steel structure erection work, the principal contractor must verify

(1) that the concrete foundations are backfilled and the work area, including the unloading area, is levelled, drained and of a sufficient dimension to store materials; and

(2) that the resistance of the soil under the work area allows support of hoisting apparatus, trucks and loads during the work.

O.C. 391-2011, s. 2.

3.24.9. **Erection plans:** Work must be carried out according to the steel structure manufacturer's plan. The plan must include

(1) the location of the various components of the structure and their erection marks;

(2) the main dimensions and their respective levels;

(3) the type of bolts used and their diameter;

(4) the welds to be done on site;

(5) the temporary structural components; and

(6) the number of rows of bridging and their position, if applicable.

O.C. 391-2011, s. 2.

3.24.10. **Erection procedure:** In addition to being carried out in accordance with the erection plan provided for in section 3.24.9, the work must be carried out according to a procedure established by the employer. The procedure must contain

(1) the installation method and the erection stages of the structure;

(2) the measures to be taken to ensure that the structure components are stable; and

(3) the measures to protect workers from falling.

In addition to the requirements provided for in the first paragraph, the erection procedure must include the hoisting procedure provided for in section 3.24.15.

O.C. 391-2011, s. 2.

3.24.11. **Anchor rods:** Column anchor rods must be installed according to an anchoring plan provided by the steel structure manufacturer. The plan must

(1) contain the following information:

(a) the dimensions of the anchor rods and their position;

(b) the details necessary for securing the anchor rods;

(2) provide an erection procedure where the columns are anchored with fewer than 4 anchor rods or where the position of the anchor rods does not ensure stability of the columns in all their axes.

In addition, column anchor rods must resist the application of a vertical construction load of at least 1.33 kN located 45 cm from the column face in each of its axes and at its maximum height.

O.C. 391-2011, s. 2.

3.24.12. **Prior certification:** Before the beginning of the work, the principal contractor must obtain from an engineer a certification according to which the anchor rods were installed in accordance with the anchoring plan provided for in section 3.24.11 and the concrete foundations reached the strength required to support the erection of the steel structure.

O.C. 391-2011, s. 2.

3.24.13. **Anchor rod modification or repair:** During the work, the principal contractor must obtain from an engineer a new certification following any modification to or repair of column anchor rods that is subsequent to their installation.

O.C. 391-2011, s. 2.

3.24.14. **Stacks of shims:** Each column that stands on concrete foundations must rest on at least 2 stacks of shims of at least 9 in^2 and located near the anchor rods, unless another levelling device offering equivalent safety is provided for in the erection plan.

O.C. 391-2011, s. 2.

3.24.15. **Hoisting procedure:** A hoisting procedure must be developed when a load is handled

(1) by more than one hoisting apparatus;

(2) by a hoisting apparatus other than a crane;

(3) on a pallet by a hoisting apparatus other than a fork lift truck.

Where a hoisting apparatus is anchored to an existing structure, the anchor point and its working load limit must be specified in the hoisting procedure.

O.C. 391-2011, s. 2.

3.24.16. **Component weight:** Information about the weight of each component of a steel structure to be erected must be accessible on the work premises.

In addition, the weight must be indicated on each component exceeding 500 kg.

O.C. 391-2011, s. 2.

3.24.17. **Hoist hooks:** Every hook used to hoist a load must present one of the following characteristics:

(1) be equipped with a safety latch;

(2) close under the application of the load and be equipped with a self-locking latch requiring a positive action to unlock the hoist hook.

Where a load is hoisted using a hook referred to in subparagraph 1 of the first paragraph, the load must be hung using a shackle or a wrought alloy steel ring.

Where a load remote unhooking device is used, it must have the following features:

(1) the minimum and maximum loading capacities are conspicuously indicated on the device;

(2) where the device is engaged, it locks under the application of the load; and

(3) it opens only when it no longer withstands the weight of the load and a command to open it is issued.

O.C. 391-2011, s. 2.

3.24.18. **Beam-column connection of a multi-span steel structure:** During beam-column connection work, a beam must not be supported by a spanner. The type of connection must be designed so as to take that prohibition into account.

The type of beam-column connection may be designed in one of the following manners:

(1) the beam is attached to the column while being supported by a bracket previously attached to the column;

(2) the upper right corner of the plate or angle seat is notched to clear the first supporting bolt of the beam placed previously in the manner specified in Schedule 6.

O.C. 391-2011, s. 2.

3.24.19. **Erection of an open web steel joist:** Erection work of an open web steel joint must be carried out in accordance with the following standards:

(1) before a hoisting apparatus lands the joist and in order to ensure the lateral stability of the joist during its placement, erection bridging must be installed, if applicable, in accordance with the joist manufacturer's plan. Bridging must be of the bolted diagonal type and the number of rows indicated in the plan must at least comply with the following specifications:

Joist length	Minimum number of rows
(a) less than 12 m	None
(b) 12 m to 18 m	1 row
(c) 18 m to 30 m	2 rows
(d) 30 m or more	4 rows

(2) as soon as a joist is placed, each joist end must be bolted using at least one bolt; and

(3) no load may be placed on the joist as long as all the rows of bridging have not been secured and each end of row has not been anchored, except if the joist manufacturer specifies on the joist connection plan the measures to be taken to do so and those measures have been complied with.

Joists may be hoisted and landed in bundles on the steel structure if they do not require erection bridging and are put in place one after the other to prevent them from falling off their supports.

O.C. 391-2011, s. 2.

3.24.20. **Space between girts:** If the provisions set out in section 3.10.7 may not be applied to the installation of girts because of the work environment or the height of the steel structure, the vertical space between girts must not exceed 1.6 m and a means of access to allow a worker to go from one girt to another must be provided in the plan or in the hoisting procedure.

O.C. 391-2011, s. 2.

Dismantling of a steel structure

O.C. 391-2011, s. 2.

3.24.21. **Obligations of the principal contractor:** Before the beginning of the dismantling work of a steel structure, the principal contractor must

(1) locate, if applicable, the electric network of the work area, turn off the power and apply a locking procedure;

(2) locate any gas, steam or liquid line and apply, if applicable, a method for purging the line and a locking procedure.

O.C. 391-2011, s. 2.

3.24.22. **Dismantling plan:** Work must be carried out according to a plan drawn up by an engineer. The plan must contain

(1) the dismantling method and sequence, including the bolt, rivet and weld removal sequence;

(2) measures to ensure the stability of the hoisting apparatus and structure components. The measures must particularly take into account the following elements:

(a) the load must not exceed 70% of the hoisting apparatus capacity, including hoisting accessories, specified in the applicable load rating chart;

(b) anchor rods must be considered as having no resistance, unless pull-out tests are performed to establish their resistance;

(3) the weight and the centre of gravity of the structure components;

(4) measures to protect workers against falls; and

(5) any other relevant measure to ensure the safe dismantling of the structure.

O.C. 391-2011, s. 2.

DIVISION IV
HANDLING AND USE OF EXPLOSIVES

§4.1. General provisions

4.1.1. No explosive shall be used on a construction site if the following information is not clearly printed or indicated on the explosive box or container:

(a) the manufacturer's name;

(b) the name under which the explosive is known;

(c) the date of manufacture; and

(d) the instructions in French for the safe storage, handling, use and destruction of the explosive.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.1.1; O.C. 1959-86, s. 29; O.C. 57-2015, s. 2.

4.1.2. Explosives shall be:

(a) protected against impacts, frictions, fire, flames and sparks;

(b) sheltered from rain and snow; and

(c) kept in a ventilated place.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.1.2; O.C. 57-2015, s. 3.

4.1.3. Explosives bearing the oldest manufacture date shall be used first.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.1.3; O.C. 57-2015, s. 4.

4.1.4. Deteriorated explosives shall be handled with utmost care and shall be destroyed without delay according to the manufacturer's instructions.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.1.4; O.C. 57-2015, s. 5.

4.1.5. It is prohibited to use an explosive that has reached its freezing point, unless the manufacturer's instructions allow such use.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.1.5; O.C. 1959-86, s. 30; O.C. 57-2015, s. 6.

4.1.6. No explosive shall be left lying about.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.1.6; O.C. 57-2015, s. 7.

4.1.7. An employer must ensure that no one smokes, brings a flame, a substance or material likely to increase the risk of explosion or fire within 8 m from any place where explosives are present.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.1.7; O.C. 1959-86, s. 31; O.C. 57-2015, s. 8.

4.1.8. An employer must ensure that

(a) explosives are handled and used in accordance with the manufacturer's instructions;

(b) explosives that are brought on the site correspond to the quantities required to carry out the blasting for one workday;

(c) explosives not used to carry out blasting are stored in a depot designed for that purpose;

(d) explosives are not transported by hand at the same time as detonators or other blasting accessories.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.1.8; O.C. 1959-86, s. 32; O.C. 57-2015, s. 9.

4.1.9. When there is a risk of accidental blasting by electric induction, caused notably by a radio frequency transmitter or a power line, the employer must favour a non-electrical priming method.

If the employer nonetheless carries out blasting using an electrical priming method, the employer must take all the safety measures required, including the following:

(a) inform the Commission, before the work begins, of the safety measures agreed upon with public utilities where the blasting is near a power line of 125,000 V or more;

(b) place, 300 m around the loading area, signs requiring drivers to turn off the radio transmitter of their vehicle;

(c) isolate electrical circuits and make sure that the detonator leg wires are twisted together when the detonator is inserted in the firing point;

(d) make sure that all equipment emitting radio, electric or magnetic waves

(i) are turned off within 15 m around the loading area before the electric detonator is assembled with the lead wires

(ii) comply with the distances recommended in the Safety Guide for the Prevention of Radio Frequency Radiation Hazards in the Use of Commercial Electric Detonators, published by the Institute of Makers of Explosives (Safety Library).

O.C. 1959-86, s. 32; O.C. 57-2015, s. 10.

4.1.10. Fireworks, igniter cords, military devices and safety fuses may not be used on a construction site.

Despite section 295 of the Regulation respecting occupational health and safety (chapter S-2.1, r. 13), this section does not apply to an establishment as defined in section 1 of the Act respecting occupational health and safety (chapter S-2.1).

O.C. 57-2015, s. 11.

4.1.11. Nothing in this Regulation exempts a person from the obligation to comply with the requirements of any applicable act or regulation, particularly with regard to the acquisition, possession, storage, transportation or delivery, handling, use and sale of explosives.

In the event of inconsistency between a provision of this Regulation and a provision of another act or regulation, the stricter standard is to apply.

O.C. 57-2015, s. 11.

§4.2. Shot-firer's certificate

4.2.1. **Shot-firer:** A person who carries out blasting must hold a shot-firer's certificate issued by the Commission or a body recognized by it.

The certificate is issued until the date of expiry of the general permit held under the Act respecting explosives (chapter E-22) by the shot-firer. The certificate is renewed upon request by its holder as long as renewal of the general permit is granted.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.2.1; O.C. 1959-86, s. 33; O.C. 1279-98, s. 1; O.C. 57-2015, s. 12.

4.2.1.1. A shot-firer must be in possession of the original of his or her certificate during blasting operations.

O.C. 57-2015, s. 12.

4.2.2. A shot-firer may not receive assistance from more than 2 workers who are not certificate holders.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.2.2; O.C. 1959-86, s. 33; O.C. 57-2015, s. 13.

4.2.3. In addition to holding a general permit, a candidate for a shot-firer's certificate must

(a) be 18 years of age and older;

(b) provide a document certifying that the candidate's character, knowledge and experience make the candidate competent to handle explosives; and

(c) pass the written examination prepared by the Commission with a mark of at least 80%.

Unless the Commission has suspended or revoked the certificate it issued to the shot-firer, a shot-firer holding a certificate issued by a competent authority in another province or a territory of Canada and recognized by the Commission as equivalent to the certificate issued under this Division is not required to undergo the examination provided for in subparagraph *c* of the first paragraph.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.2.3; O.C. 1959-86, s. 34; O.C. 1279-98, s. 2; O.C. 57-2015, s. 14.

4.2.4. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.2.4; O.C. 1959-86, s. 35; O.C. 57-2015, s. 15.

4.2.5. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.2.5; O.C. 1959-86, s. 36; O.C. 57-2015, s. 15.

4.2.6. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.2.6; O.C. 1959-86, s. 37; O.C. 57-2015, s. 15.

4.2.7. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.2.7; O.C. 1959-86, s. 38.

4.2.8. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.2.8; O.C. 1959-86, s. 38.

4.2.9. The Commission may suspend or revoke a certificate if the shot-firer

(a) has been the subject, in his or her work, of a remedial order under section 182 of the Act respecting occupational health and safety (chapter S-2.1) or of an order under section 186 of that Act, by reason of his or her refusal to comply with the Act or this Regulation;

(b) is found guilty of an offence under section 236 of the Act respecting occupational health and safety in relation to this Division;

(c) no longer holds a general permit issued under the Act respecting explosives (chapter E-22).

The Commission must notify the shot-firer in writing of the suspension or revocation of the certificate.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.2.9; O.C. 1959-86, s. 39; O.C. 57-2015, s. 16.

4.2.10. The Commission must revoke a certificate if the shot-firer is found guilty of an offence under section 237 of the Act respecting occupational health and safety (chapter S-2.1) in relation to this Division.

The Commission must notify the shot-firer in writing of the revocation of the certificate.

O.C. 57-2015, s. 16.

4.2.11. An employer must ensure that a worker who acts as shot-firer holds a certificate.

O.C. 57-2015, s. 16.

§4.3. Transportation of explosives

4.3.1. An employer must make sure that a vehicle transporting explosives is in good working order and allows for the safe transportation of explosives, in particular in compliance with the following standards:

(a) the display of safety marks in accordance with the Transportation of Dangerous Goods Regulations (SOR/2001-286);

(b) the part of the vehicle containing explosives must be isolated, fireproof, in compliance with section 45 of the Regulation under the Act respecting explosives (chapter E-22, r. 1) and locked at all times except during the loading or unloading of explosives;

(c) the metal parts likely to come into contact with explosives or their wrapping during transportation must be covered with a material to prevent such contact;

(d) the installation of a tracking and communication system, for a vehicle carrying 2,000 kg or more of explosives, that makes it possible at all times to locate the vehicle and to communicate with its driver. The employer must make sure that a person is in charge of locating and communicating with the driver at all times during the transportation of explosives, as well as alerting police services in case of emergency.

The tracking and communication system provided for in subparagraph *d* must be installed not later than 26 February, 2018.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.1; O.C. 1959-86, s. 40; O.C. 57-2015, s. 17.

4.3.1.1. An employer must subject the vehicle referred to in section 4.3.1 to a mechanical inspection once a year and remedy without delay the failures observed during such inspection.

Inspection of a vehicle carried out by a holder of a certificate of competency issued under the Highway Safety Code (chapter C-24.2), in the context provided for in the Code or its regulations or under another Act or regulation, stands in lieu of the annual inspection referred to in the first paragraph. Otherwise, the inspection must be carried out by a mechanic whose competency is equivalent to that of the holder of a certificate of competency issued under the Highway Safety Code.

The employer must keep proof that the vehicle has been inspected.

O.C. 57-2015, s. 17.

4.3.1.2. An employer must ensure that objects other than explosives are not transported with the explosives, unless they are stored, or separated from the explosives, in a way that reduces the risk of ignition to a minimum.

Despite the first paragraph, it is prohibited to transport diesel fuel, gasoline or other flammable products with explosives.

O.C. 57-2015, s. 17.

4.3.2. During loading and unloading, the employer must ensure that the driver is accompanied by a person who is responsible for watching over the explosives.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.2; O.C. 1959-86, s. 40; O.C. 57-2015, s. 18.

4.3.3. Where detonators are transported with explosives, the employer must make sure that they are stored separately in a compartment of the vehicle that is completely closed and does not communicate with the part of the vehicle that contains the explosives.

The compartment wall that separates the detonators from the explosives must be as high as the roof and be made of solid wood 150 mm thick or of a material that prevents the explosion of the detonators for at least 1 hour in case of fire.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.3; O.C. 1959-86, s. 41; O.C. 57-2015, s. 19.

4.3.4. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.4; O.C. 1959-86, s. 42; O.C. 57-2015, s. 20.

4.3.5. Every vehicle transporting explosives must be equipped with 2 portable fire extinguishers graded and classified :4-A :40-B :C and complying with the standards in section 3.4.4.

The employer must ensure that the driver is capable of using the fire extinguishers.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.5; O.C. 1959-86, s. 42; O.C. 329-94, s. 72; O.C. 57-2015, s. 21.

4.3.6. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.6; O.C. 1959-86, s. 42; O.C. 57-2015, s. 22.

4.3.7. **Loading and unloading**: During the loading or unloading of explosives in a vehicle, the employer must ensure that all the safety measures required to eliminate the risk of accidental blasting are taken. The employer must make sure, in particular, that

(a) the vehicle's engine is not running;

(b) the loading or unloading takes place without interruption and with care, except in the case of bulk explosives.

Once the explosives are unloaded, the employer must make sure that every explosive is stored in a depot, as soon as possible, unless the vehicle constitutes a depot covered by a magazine permit within the meaning of section 38 of the Regulation under the Act respecting explosives (chapter E-22, r. 1).

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.7; O.C. 1959-86, s. 43; O.C. 57-2015, s. 23.

4.3.8. The driver of a vehicle transporting explosives must no make unnecessary stops. When the vehicle must be parked, the driver must turn the ignition off, set the parking brake and ensure a continuous watch over the vehicle. A vehicle carrying explosives shall not be fueled except where the distance to cover is greater than the range allowed by the fuel tank capacity of the vehicle. In that case, fueling shall nevertheless be done before loading explosives.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.8; O.C. 1959-86, s. 44.

4.3.9. Only the driver and the persons engaged in the handling of explosives may ride in a vehicle transporting explosives.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.9.

4.3.10. **Vehicle equipped with a radio transmitter:** When detonators are not in their original packing, the employer must make sure that the radio frequency transmitter is not in use unless the detonators are not electrical or are contained in a closed metal case lined with a material not likely to produce sparks.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.10; O.C. 57-2015, s. 24.

4.3.11. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.11; O.C. 57-2015, s. 25.

4.3.12. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.3.12; O.C. 1959-86, s. 45; O.C. 57-2015, s. 25.

4.3.13. Where explosives are transported outside motor roads using a means other than a vehicle referred to in this subdivision, the employer must ensure that

(a) the quantity of explosives transported does not exceed the quantity required for the blasting;

(b) the explosives are contained in a chest that has no material inside that could produce sparks;

(c) detonators are transported separately from the explosives, either in another chest, or in the same chest if it is equipped with a safe partition;

(d) if applicable, the additional quantity of fuel necessary for the transportation is properly separated from the chests containing the detonators and explosives.

O.C. 57-2015, s. 26.

§4.4. Storage of explosives

4.4.1. On a construction site, the employer must make sure that an explosive depot meets the following safety standards:

(a) conform to the standards of the Regulation under the Act respecting explosives (chapter E-22, r. 1);

(b) *(*)* be laid out so as to comply with the distances established in the standard Explosives - Quantity Distances, BNQ 2910-510, or in the table in Schedule 2.3;

(c) be used exclusively for the storage of explosives or blasting accessories;

(d) be locked;

(e) be under the employer's supervision and responsibility;

(f) be kept clean inside, be coated or covered in such a way that no iron or steel is left uncovered and no particle of rough iron, steel or any similar substance may become loose or come into contact with the explosives contained in the depot;

(g) be of the colour white, aluminum or red with the word EXPLOSIVES written on all visible sides, in contrasting colours at least 150 mm high.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.4.1; O.C. 1959-86, s. 46; O.C. 57-2015, s. 27.

- *(*) Until the standard Explosives – Quantity Distances, BNQ 2910-510, is made and published by the Bureau de normalisation du Québec, the distances for the disposition of depots, provided for by the standard in paragraph b, are those provided for in the Quantity Distance Principles User's Manual published in 1995 by the Explosives Regulatory Division of Natural Resources Canada.*

4.4.1.1. A construction site chest used as an explosive depot may not contain more than 227 kg of explosives.

The chest may be kept without dike. However, it must be kept at least 15 m from any building, meeting place or road.

If there is more than one chest, each chest must be protected from the others by dikes and comply with the standards prescribed in column 3 of Schedule 2.3.

O.C. 57-2015, s. 27.

4.4.1.2. Where a truck is used to temporarily store the explosives required for a workday, the employer must ensure that the following standards are met:

(a) the quantity of explosives stored may not exceed 800 kg;

(b) the vehicle is covered by a magazine permit within the meaning of section 38 of the Regulation under the Act respecting explosives (chapter E-22, r. 1);

(c) the vehicle is equipped with an automatic fire suppression system, with dry chemicals, complying with AS 5062-2006 standard Fire Protection for Mobile and Transportable Equipment, published by Standards Australia;

(d) during blasting, the truck must be kept in a safe place, outside the blasting area, under the constant supervision of a person holding a general permit issued under the Act respecting explosives (chapter E-22).

O.C. 57-2015, s. 27.

4.4.1.3. During working hours, if it is impossible to conform to the distances provided for in paragraph *b* of section 4.4.1, the employer may store the explosives required for a workday in a construction site chest or an explosive transportation truck in compliance with the quantity and distance standards provided for in section 4.4.1.1 or 4.4.1.2, as the case may be.

O.C. 57-2015, s. 27.

4.4.2. In off-duty hours, the explosives, detonators and other accessories must be sent back to the supplier or stored in accordance with the Regulation under the Act respecting explosives (chapter E-22, r. 1).

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.4.2; O.C. 1959-86, s. 46.

4.4.3. **Dangerous substances:** Any flammable substance and any product likely to cause a fire or explosion must be handled and stored in compliance with the measures prescribed in section 3.16.10, away from any explosive depot.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.4.3; O.C. 57-2015, s. 28.

4.4.4. Every detonator must be stored in a depot separate from the explosive depot. No dike is required around that depot, which must be at least 8 m from any other explosive depot.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.4.4; O.C. 1959-86, s. 47; O.C. 57-2015, s. 29.

4.4.5. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.4.5; O.C. 1959-86, s. 48.

4.4.6. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.4.6; O.C. 57-2015, s. 30.

4.4.7. In a depot, explosives and their packages must be stored safely, in particular by

(a) limiting the height of piles so as to prevent explosives from tipping over;

(b) keeping sufficient space between the explosive piles, walls, roof and ventilation openings, so as to maintain proper air circulation;

(c) not opening packages or wooden containers closed with metal ties or strips. The other types of packaging or containers may be opened, one at a time, for inspection purposes or to remove the explosives;

(d) storing only explosive packages or containers that are clean, dry and free of small abrasive materials or any contamination.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.4.7; O.C. 57-2015, s. 31.

4.4.8. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.4.8; O.C. 1959-86, s. 48.

4.4.9. At the end of a workday, empty containers that were used to pack explosives must be destroyed according to the manufacturer's instructions or be returned to the supplier so that they may not be used for other purposes.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.4.9; O.C. 1959-86, s. 49; O.C. 57-2015, s. 32.

4.4.10. An explosive depot must be farther from a 44 kV or more overhead electric power line than the distance between the supports of the line located near the depot. Where the distance between the supports of the line is greater than 15 m, the depot must be placed from that line at the greater of the following distances:

(a) 15 m;

(b) the result of the following formula: P / 2 - H (in meters), where “P” is the distance between the supports of the transmission line and “H” is the height of the supports of the transmission line; or

(c) the distance provided for in column 2 of the table in Schedule 2.3.

O.C. 57-2015, s. 32.

§4.5. Drilling

4.5.1. No drilling may be done closer than

(a) 1.5 m from a misfire or blowout. If necessary, holes may be drilled closer but not less than 600 mm on condition that drilling is performed by remote control under supervision and that all precautions are taken to ensure the safety of workers should an explosion occur at the blasting face;

(b) 8 m from any loaded blasthole or explosive loading site. Despite the foregoing, a blasthole may be drilled closer than 8 m if adaptation to specific job-sites conditions is required, particularly for trench work or work in permafrost zones in unstable conditions. The employer must then ensure that

(i) loading and drilling are performed alternately;

(ii) the shot-firer supervises and controls the drilling operations;

(iii) only cartridge explosives are used. However, if soil degradation does not allow for the insertion of cartridge explosives in the boring hole, the shot-firer may use a blasting agent to load the hole. That method may not be used for more than 3 holes per blasting;

(iv) a carpenter's level is used to make sure that blastholes are vertical;

(v) the minimum distance from any loaded hole is 1.5 m or 20% of the hole depth to a maximum depth of 12 m, using the greater distance between the two;

(vi) if the holes have a depth of 6 m or more, the first drilling rod must be replaced by a guide tube or another means providing equivalent precision to avoid the blasting of another loaded hole in the vicinity;

(vii) loaded holes must be marked by stakes of a distinct color or carrying a distinct ribbon.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.5.1; O.C. 1959-86, s. 50; O.C. 57-2015, s. 33.

4.5.2. The diameter of the explosive used must be smaller than the diameter of the borehole throughout the depth of the latter.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.5.2; O.C. 1959-86, s. 50.

4.5.3. Before being loaded, all holes must be examined and corrected where necessary.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.5.3; O.C. 1959-86, s. 50; O.C. 57-2015, s. 34.

4.5.4. Drilling and loading of explosives may not be carried out simultaneously less than 8 m from one another, or one on top of the other.

O.C. 57-2015, s. 35.

4.5.5. Before drilling any surface of a digging where blasting was performed, all bottoms of blastholes must be marked in either of the following manners:

(a) by a circle in paint or crayon of a colour contrasting with the soil;

(b) by inserting a stick into the hole.

O.C. 57-2015, s. 35.

4.5.6. It is prohibited to deepen holes remaining intact after blasting.

O.C. 57-2015, s. 35.

§4.6. Loading of blastholes

R.R.Q., 1981, c. S-2.1, r. 6, Sd. 4.6; O.C. 57-2015, s. 36.

4.6.1. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.1; O.C. 57-2015, s. 37.

4.6.1.1. A loading area must be delimited by means of ribbons, trestles or a warning line provided for in section 2.9.4.1. Only persons holding a valid general permit, issued under the Act respecting explosives (chapter E-22), may access the area.

O.C. 57-2015, s. 38.

4.6.2. The primer cartridge of a blasthole shall be prepared only when priming the hole.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.2; O.C. 1959-86, s. 51.

4.6.3. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.3; O.C. 57-2015, s. 39.

4.6.4. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.4; O.C. 1959-86, s. 52; O.C. 57-2015, s. 39.

4.6.5. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.5; O.C. 1959-86, s. 52; O.C. 57-2015, s. 39.

4.6.6. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.6; O.C. 1959-86, s. 53.

4.6.7. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.7; O.C. 1959-86, s. 53.

4.6.8. **Tamping rod and punch:** For loading, only a tamping rod and punch made of non-ferrous material may be used.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.8; O.C. 1959-86, s. 54.

4.6.9. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.9; O.C. 1959-86, s. 55.

4.6.9.1. **Conditions for untamping and repriming a blasthole or misfire:** Prior to the untamping or repriming of a blasthole or misfire, the employer must prepare a written procedure that takes into account the types of explosives and the manufacturer's instructions in that regard, as well as environmental conditions.

The employer must also make sure that

(a) the procedure is available on the construction site;

(b) the untamping of the collar is done by the shot-firer who loaded and fired the blasthole, unless it is impossible for him to do so;

(c) during all untamping, repriming and firing operations, all persons except the shot-firer are outside the blasting area;

(d) the constituents of the material used for untamping the blasthole and inserted in it is made of non-ferrous materials.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.9.1; O.C. 1959-86, s. 56; O.C. 57-2015, s. 40.

4.6.10. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.10; O.C. 1959-86, s. 57.

4.6.11. At the first signs of a thunderstorm, the employer must stop all loading and detonator connecting operations. The employer must evacuate the blasting area, prohibit access thereto and supervise the situation from a distance.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.11; O.C. 57-2015, s. 41.

4.6.12. **Electric blasting operations:**

(a) For electritc blasting operations, the entire length of the lead wires must be made of 2 insulated conductors that do not come in contact with the ground or other conductor and must reach the immediate vicinity of the firing point. These conductors must not be intertwined with conductors intended for any other purpose whatsoever, nor run in the same tube with them, nor have the possibility of coming in contact with them;

(b) To avoid stray electric currents or current leaks to ground, bare connections between the lead wires and the cap leg wires or between the cap leg wires must not come in contact with the ground or equipment.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.12; O.C. 1959-86, s. 58.

4.6.13. During the final connection of lead wires and the various electric blasting caps, the entire firing circuit must be checked using a blasting ohmmeter.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.13; O.C. 1959-86, s. 58; O.C. 57-2015, s. 42.

4.6.14. **Blasting machine:**

(1) The blasting machine shall be stored in a cool, dry place.

(2) It shall be kept in good operating condition and shall be tested regularly.

(3) The capacity of the blasting machine shall be clearly marked on each machine and such capacity shall never be exceeded. Only the shot-firer shall have access to the operating components of such apparatus.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.14.

4.6.15. **Detonating fuse:** When the lead wires are composed of detonating fuses, the employer must ensure that the following safety measures are complied with:

(a) spliced pieces are not used in a single blasthole;

(b) after priming, the down line is cut from the reel and a sufficient length, approximately 200 mm, protrudes from the blasthole to prevent a possible settlement of the load prior to make final connections;

(c) main fuses are connected to detonating fuses at right angles;

(d) when priming a detonating fuse with a detonator, the end with the explosive charge is set in the same direction as the expected shock wave;

(e) no detonating relay is placed in a blasthole;

(f) the shot-firer has visually checked all the connections;

(g) the firing point of the detonating fuse must be located outside the surface covered by the blasting mats;

(h) the detonator used for starting the detonating fuse must be set in place only once the covering operations have been completed.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.15; O.C. 1959-86, s. 59; O.C. 57-2015, s. 43.

4.6.16. **Blending of ANFO:** The blending of ammonium nitrate and fuel oil or of other nitrocarbonitrates must not be carried out unless a licence has been granted or written permission given under the Explosives Act (R.S.C. 1985, c. E-17).

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.16; O.C. 1959-86, s. 60.

4.6.17. When explosives in bulk are loaded, a semiconductor loading hose must be used and the loading equipment must be grounded according to the manufacturer's instructions.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.17; O.C. 1959-86, s. 60; O.C. 57-2015, s. 44.

4.6.18. **Unloading and refiring:** It is prohibited to unload or clean out a blasthole or a misfire.

If the starting operation or refiring is impracticable, the explosives must be pulled out in accordance with a procedure prepared in writing by an engineer, taking into account the types of explosives and the manufacturer's instructions in that regard, as well as environmental conditions.

The procedure must be available on the work site.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.18; O.C. 1959-86, s. 60; O.C. 57-2015, s. 45.

4.6.19. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.6.19; O.C. 1959-86, s. 60; O.C. 57-2015, s. 46.

§4.7. Firing

4.7.1. All loaded holes must be primed and fired in the same round. When firing cannot be done at the end of the loading, the blasting area must remain under supervision, be evacuated, and no access shall be permitted until after the firing.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.7.1; O.C. 1959-86, s. 61; O.C. 57-2015, s. 47.

4.7.2. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.7.2; O.C. 57-2015, s. 48.

4.7.3. Lead wires must be connected to the blasting machine after the signal indicating that blasting is imminent. Lead wires must always be disconnected from the blasting machine immediately after the firing or after the attempted blast. Both ends of the lead wires must be short-circuited and insulated to guard against stray currents.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.7.3; O.C. 1959-86, s. 62.

4.7.4. Firing may be done from a power line or from a portable generator, provided that:

(a) voltage does not exceed 220 V;

(b) the blasting switch be designed so that:

(i) the weighted handle of the blasting switch automatically gravitates to the “off” position and short-circuits the lead wires; and

(ii) the door of the box housing the blasting switch is provided with a device that prevents it from being locked or closed unless the blasting switch is in the “off” position. The door must be kept locked except when firing and only the shot-firer shall have the key;

(c) a fused switch is installed between the power source and the blasting switch;

(d) the fused switch and the blasting switch are situated in the proper place for blasting and at a distance of 1.5 to 1.8 m from each other as a precaution against lightning. Underground they will be placed on either side of a tunnel or gallery.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.7.4; O.C. 1959-86, s. 63; O.C. 57-2015, s. 49.

4.7.5. When blasting is done in the vicinity of a structure such as a building, railway or road, the employer must limit the quantity of explosives so that the vibrations caused by the blasting do not damage those structures.

To that end, the employer must comply with the most stringent standards between those provided for in specifications designed for that purpose by a public authority and those provided for in blasting specifications signed and sealed by an engineer. Failing such specifications, the employer must comply with one of the standards provided for in Schedule 2.6.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.7.5; O.C. 1959-86, s. 64; O.C. 57-2015, s. 50.

4.7.5.1. During blasting, projections must stay within the blasting area. To that end, the employer must take appropriate measures to reduce and control projections, in particular by using blasting mats.

When blasting mats are used, they must be deposited, not slid, onto blastholes loaded with explosives.

O.C. 57-2015, s. 50.

4.7.6. The firing procedures are as follows:

(a) before proceeding with the firing, the shot-firer must ensure with the employer that all persons have taken shelter;

(b) sound signals must be emitted with a siren of at least 120 dB:

(i) immediately before blasting, 12 short horn signals at one-second intervals;

(ii) 30 seconds must elapse between the last warning signal and the time of firing;

(iii) after blasting, once the blasting area is safe, one continuous 15-second horn signal must announce that work may be resumed in the area;

(c) the employer must make sure that workers take shelter outside the blasting area before the first signal and that they remain there until the 15-second signal is sounded;

(d) a code of sound signals reserved for blasting operations must be written in coloured letters 150 mm high, against a contrasting background, on a board 1.2 m high by 2.4 m wide, placed at all points of access to the work site.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.7.6; O.C. 1959-86, s. 64; O.C. 57-2015, s. 51.

4.7.7. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.7.7; O.C. 1959-86, s. 65.

4.7.8. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.7.8; O.C. 1959-86, s. 65.

4.7.9. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.7.9; O.C. 57-2015, s. 52.

4.7.10. **Blasting logbook:** The blasting logbook must at least contain the information provided for in Schedule 2.2 and it must be maintained and signed by the shot-firer. The employer must keep it for 3 years and make it available at all times on the work site.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.7.10; O.C. 1959-86, s. 66; O.C. 57-2015, s. 53.

§4.8. Work after blasting

R.R.Q., 1981, c. S-2.1, r. 6, Sd. 4.8; O.C. 57-2015, s. 54.

4.8.1. After blasting, the shot-firer must be the first to enter the blasting area to make sure it is safe. For that purpose, the shot-firer must

(a) wait for the smoke to dissipate;

(b) make sure, using a device to measure the concentration of carbon monoxide, that the carbon monoxide concentration is below the exposure limit values indicated in Schedule I to the Regulation respecting occupational health and safety (chapter S-2.1, r. 13);

(c) examine the work site;

(d) look for possible misfires, blowouts and bootlegs;

(e) mark those found.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.8.1; O.C. 1959-86, s. 67; O.C. 57-2015, s. 55.

4.8.2. When the shot-firer considers that the blasting area is safe, the shot-firer informs the employer that the employer may

(a) sound the 15-second signal;

(b) remove the blasting mats as soon as possible after the end of blasting;

(c) excavate blasting debris.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.8.2; O.C. 1959-86, s. 68; O.C. 57-2015, s. 56.

4.8.3. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.8.3; O.C. 1959-86, s. 69; O.C. 57-2015, s. 57.

4.8.4. When it is found that a defect in the electrical circuit has prevented the charges from detonating at time of firing, the shot-firer may immediately check over the circuit after having made sure that:

(a) the ends of the lead wires are disconnected from the power supply and short-circuited;

(b) the blasting machine is locked or under a worker's surveillance; and

(c) if used, the blasting switch is locked and in open circuit.

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.8.4.

4.9 *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, Sd. 4.9; O.C. 57-2015, s. 58.

4.9.1. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.9.1; O.C. 1959-86, s. 70; O.C. 57-2015, s. 58.

4.9.2. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.9.2; O.C. 1959-86, s. 71; O.C. 57-2015, s. 58.

4.9.3. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 4.9.3; O.C. 1959-86, s. 71; O.C. 57-2015, s. 58.

DIVISION V
WORK IN THE PROXIMITY OF ELECTRICAL LINES

§5.1. Scope

5.1.1. This Division applies to any construction work carried out near an aerial electrical line.

R.R.Q., 1981, c. S-2.1, r. 6, s. 5.1.1.

5.1.2. However, this Division does not apply to:

(a) a neutral conductor;

(b) an insulated cable less than 750 V of the duplex, triplex or quadruplex assembly type;

(c) a consumer or distributor branching less than 750 V;

(d) the electrical installation of the consumer;

(e) the construction, repair or maintenance of an electrical line carried out by a worker of an electrical power company or by an employer authorized by it;

(f) the construction, repair or maintenance of a communications network performed on a structure supporting an electrical line by an employer authorized by an electrical power company; or

(g) work performed near an electrical line 750 V or less, provided that there is insulation between the worker and the non-insulated live parts.

R.R.Q., 1981, c. S-2.1, r. 6, s. 5.1.2.

§5.2. Interdictions

5.2.1. The employer shall ensure that no one performs work liable to bring any part, load, scaffolding, machine component or person closer than the minimum approach distance specified in the following table:

Tension between phases (volts)	*Minimum approach distance (metres)*
Less than 125 000	3
125 000 to 250 000	5
250 000 to 550 000	8
More than 550 000	12

R.R.Q., 1981, c. S-2.1, r. 6, s. 5.2.1; O.C. 35-2001, s. 22.

5.2.2. The employer who wishes to carry out work liable to bring any part, load, scaffolding, machine component or person closer to an electrical line than the minimum approach distance specified in section 5.2.1, may proceed to such work provided that one of the following conditions is complied with:

(a) that power line has been turned off. He shall ensure that no one runs any risk of being electrocuted before turning the power on again;

(b) the employer has come to an agreement with the electrical power company as to safety measures to be adopted. Before the work begins, he shall transmit a copy of such agreement as well as his work plan to the Commission. Such measures shall be carried out before the work begins and shall be maintained throughout the course of the work;

(c) extensible construction equipment, such as a backhoe, a power shovel, a crane or a dump truck, shall be equipped with a device that has 2 functions:

(i) to warn the operator or to stop the equipment from operating, so that the minimum approach distance specified in section 5.2.1 is respected;

(ii) to stop the equipment from operating, should the device fail to perform its first function.

The device referred to in subparagraph *c* must be the subject of a written declaration signed by a member of the Ordre des ingénieurs du Québec certifying that it performs the functions described in subparagraphs i and ii above and that it neither damages the equipment nor renders it unstable when it stops the equipment from operating. If the device fails to operate partially or completely, or is inoperative, the employer may continue to use the extensible construction equipment for a total of not more than 8 hours of working time, provided that he is assisted by a flagperson who has successfully completed the training course in the program described in Schedule 7.

R.R.Q., 1981, c. S-2.1, r. 6, s. 5.2.2; O.C. 1959-86, s. 72; O.C. 53-90, s. 10; O.C. 35-2001, s. 23.

5.2.3. The employer who carries out work less than 30 m away from an electrical line with a voltage higher than 250,000 V shall ensure that the following requirements are respected:

(a) refueling shall be done outside the area;

(b) construction equipment on tires shall be equipped with an electrostatic link between the metallic part and the ground; and

(c) during the installation or manipulation of a metal duct, fence or above ground structure, it shall be grounded every 30 m.

R.R.Q., 1981, c. S-2.1, r. 6, s. 5.2.3.

5.2.4. Before carrying out work near an electrical line held at each supporting point otherwise than by one wooden post, the employer shall obtain in writing the line voltage from the electrical power company.

R.R.Q., 1981, c. S-2.1, r. 6, s. 5.2.4.

§5.3. Warning sign

5.3.1. The employer shall ensure that the owner or lessee of any piece of machinery used to lift a load and capable of vertical, lateral or rotational motion, posts on such machinery, in a conspicuous place so as to be seen by the operator, a warning sign reading: DANGER — N'APPROCHEZ PAS DES LIGNES ELECTRIQUES, in letters at

least 12 mm in height.

R.R.Q., 1981, c. S-2.1, r. 6, s. 5.3.1.

DIVISION VI
SHORING OF CONCRETE FORMWORK

§6.1. Shoring drawing

6.1.1. A copy of the drawing mentioned in paragraph *b* of subsection 2 of section 2.4.1 shall be kept on the construction site for the entire duration of the work.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.1.1.

6.1.2. If, for a construction, there is repetition of the form of the structure and it is not necessary to change the shoring drawing, the same drawing may be used for the following stages on the same site.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.1.2.

6.1.3. The shoring drawing shall specifically mention all the information respecting the installation of the shoring; the drawing shall contain the following information in particular:

(1) spacing of load bearing elements;

(2) bracing;

(3) size of the parts;

(4) design loads;

(5) resistance of the materials;

(6) bearing surface;

(7) method for pouring the concrete; and

(8) any other information taken into account by the engineer who signed the drawing.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.1.3; O.C. 1413-98, s. 26.

§6.2. Concreting work

6.2.1. Before commencing concreting work, the employer shall:

(a) obtain from an engineer:

(i) a signed and sealed declaration attesting that the work complies with all the points in the shoring drawing filed; and

(ii) the authorization to proceed with the concreting work;

(b) transmit immediately a copy of the declaration to the Commission; and

(c) keep a copy of such declaration at the work site.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.2.1; O.C. 1959-86, s. 73.

§6.3. Exception

6.3.1. In the case of the construction of slabs and beams that are uniform and horizontal, Subdivisions 6.1 and 6.2 do not apply when the 4 following conditions are respected:

(a) the thickness of the concrete slab does not exceed 150 mm and the concrete beams are not higher than 300 mm including the thickness of the slab;

(b) the distance between the underside of the poured concrete and the bearing surface of the posts does not exceed 4.9 m;

(c) Subdivisions 6.4 and 6.9 are complied with;

(d) prior notice is given to the Commission.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.3.1; O.C. 1959-86, s. 74.

§6.4. Materials

6.4.1. All formwork and shoring parts shall be designed to support:

(a) the dead load of the formwork;

(b) the dead load of the concrete and the embedded materials;

(c) a minimum vertical live load evenly distributed of 2,400 N/m^2 or more to the satisfaction of the engineer; and

(d) a minimum horizontal live load evenly distributed of 1,500 N/m^2 of vertical surface or more, to the satisfaction of the engineer.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.4.1.

6.4.2. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.4.2; O.C. 393-2011, s. 19.

§6.5. Bearing surface

6.5.1. The bearing surface shall be level and firm.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.5.1.

6.5.2. The size of the sills shall be determined by taking into account the bearing capacity of the soil and the imposed loads.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.5.2.

6.5.3. A sill shall be installed between the posts and the soil surface. To ensure continuity of the sills, a piece of the same section as the sill and of sufficient length to support at least 2 posts shall be used over the joint. If it is impossible to ensure such continuity, the sill shall support at least 3 posts and shall be at least equal in length to the number of posts multiplied by their spacing.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.5.3.

6.5.4. If the shores rest on concrete slabs, the loads due to the shoring of the upper floors shall not exceed the initial design loads. For slabs:

(a) 100 mm thick or less, the sill shall support a minimum of 3 posts and shall be at least equal in length to the number of posts multiplied by their spacing;

(b) more than 100 mm thick, wooden pieces covering more than the entire telescoping jack flange area shall be used between the slab and the telescopic jacks.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.5.4.

6.5.5. The bearing surface of shores shall be so designed as not to damage the concrete.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.5.5.

6.5.6. During the freezing and thawing period of the soil, the ice and snow shall be removed and the frozen soil shall be covered with a layer of gravel or sand dust before the sills are installed. The soil shall be:

(a) protected against a possible thaw; or

(b) thawed completely before undertaking the works.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.5.6.

6.5.7. The construction of embankments or earth fills on which sills rest shall be carried out by successive layers and each layer shall be compacted mechanically. A granulated cohesive material shall be used to form a compact, resistant and waterproof base.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.5.7.

§6.6. Support parts

6.6.1. Telescopic steel jacks, timber shores and scaffold shoring shall comply with the requirements of Subdivision 2.13.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.6.1.

6.6.2. **Posts, joists and stringers:**

(1) the minimum length of the protrusion of a joist supported on a stringer shall not be less than 300 mm, unless the joist is affixed by ties, in which case the joist shall be supported at least on the full width of the stringer.

(1.1) on a same linear section of the perimeter of the shoring of the framework of a slab, the length of the protrusion of the joists and stringers shall be equal.

(2) Stringers shall be long enough to be supported by at least 3 posts.

(3) The continuity of stringers shall be ensured in one of the following ways:

(a) by a piece of wood 50 mm in nominal thickness and as wide as that of the stringer or the head of the telescopic jack, whichever is the smallest, and long enough to ensure solid attachment to the 2 stringers when the posts are placed immediately below the joint of the stringer and when:

(i) telescopic jacks with flanges of 100 × 100 mm or 100 × 150 mm are used; or

(ii) stringers of 100 mm wide are used;

(b) by a part of the same section as that of the stringers nailed to the latter and of sufficient length to be supported by at least 2 posts when the posts are placed on each side of the joint and not at the extremities of the stringers;

(c) by the flange of the telescopic jack if the dimensions are sufficient to do so, that is when:

(i) telescopic jacks with flanges of 100 × 200 mm are used;

(ii) stringers of 100 × 100 mm are used; and

(iii) the posts are placed directly beneath the joints of the stringers.

(4) Posts shall be firmly fixed, supported, and secured at each extremity.

(5) Formworks for reinforced concrete beams shall be supported by at least 2 rows of posts.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.6.2; O.C. 1413-98, s. 27.

§6.7. Bracing

6.7.1. **Horizontal bracing:**

(1) A horizontal bracing shall be placed horizontally in 2 directions at right angles to each post of any shoring when:

(a) this post is 1.8 m high or more and is placed on the soil;

(b) this post is 3.5 m high or more and rests on a concrete slab.

(2) The horizontal bracing shall be placed:

(a) as close as possible to the mid-height of the posts unless another point of buckling is indicated by the calculations; and

(b) when posts are 5.5 m long or more, at heights not exceeding 2.7 m between this bracing and:

(i) the bottom or the top of the post; or

(ii) another bracing on the same post.

(3) The bracing required in subsection 1 may be omitted if the engineer who drew up the calculations of the concrete shoring plan indicates on the plan he submits that it is not necessary.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.7.1.

6.7.2. **Diagonal bracing:** At every 4 rows of telescopic jacks, a diagonal bracing placed at a 45º angle shall be installed on both vertical planes perpendicular to each other. This bracing shall alternate from top to bottom and from bottom to top.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.7.2.

6.7.3. Especially solid bracing shall be provided for scaffold shoring and for structures when the imposed loads are not axial.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.7.3.

6.7.4. Only one telescopic jack shall be used for each level of shoring.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.7.4.

§6.8. Shoring of multistory structures

6.8.1. Concrete slabs resting on the ground or on foundation piles and which cannot be shored shall be designed to support the loads due to the shoring of the upper floors.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.8.1.

§6.9. Shoring, dismantling and deforming

6.9.1. The following provisions shall be respected during deforming:

(a) during construction, shoring shall remain in place for 21 days, unless an engineer delivers an attestation establishing that the cement has attained sufficient strength to support its own mass and the loads that it may have to support;

(b) forms shall be removed progressively by section:

(i) by taking care to place one's feet on a steady support;

(ii) by taking care not to damage the concrete elements; and

(iii) by proceeding continuously ahead and foreseeing a free exit path in case of falling objects;

(c) in the case of building framework, the columns shall be deformed first; and

(d) the forms under the slabs and those on the side of the beams and arches shall be removed before the shoring of the beams and arches.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.9.1.

6.9.2. Telescopic jacks shall be removed by means other than a sledgehammer or other heavy objects.

R.R.Q., 1981, c. S-2.1, r. 6, s. 6.9.2.

DIVISION VII
EXPLOSIVE ACTUATED TOOLS

R.R.Q., 1981, c. S-2.1, r. 6, sec. VII; O.C. 329-94, s. 73.

§7.1. General provisions

R.R.Q., 1981, c. S-2.1, r. 6, sec. VII, ss. 7.1; O.C. 329-94, s. 73.

7.1.1. Only a low velocity explosive actuated tool may be used.

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.1.1; O.C. 329-94, s. 73.

7.1.2. Any low velocity explosive actuated tool shall be used in accordance with the manufacturer's specifications.

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.1.2; O.C. 329-94, s. 73.

7.1.3. Any low velocity explosive actuated tool shall:

(1) be unloaded when not in use;

(2) never be left without supervision when it is loaded.

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.1.3; O.C. 1959-86, s. 75; O.C. 329-94, s. 73.

7.1.4. The fasteners and the accessories for a low velocity explosive actuated tool shall be of the same type as those recommended by the manufacturer.

O.C. 329-94, s. 73.

7.1.5. The strength of the explosive charges used with a low velocity explosive actuated tool shall not be greater than the maximum strength permitted in accordance with the manufacturer's specifications.

O.C. 329-94, s. 73.

7.1.6. Only the manufacturer may modify a low velocity explosive actuated tool.

O.C. 329-94, s. 73.

§7.2. Operator of a low velocity explosive actuated tool

R.R.Q., 1981, c. S-2.1, r. 6, sec. VII, ss. 7.2; O.C. 329-94, s. 73.

7.2.1. Every low velocity explosive actuated tool shall be operated only by a worker having received training as a low velocity explosive actuated tool operator and holding a certificate as such, as provided for in Schedule 8.

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.2.1; O.C. 329-94, s. 73.

7.2.2. No work may be performed by a low velocity explosive actuated tool operator who is less than 18 years of age.

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.2.2; O.C. 1959-86, s. 76; O.C. 329-94, s. 73.

7.2.3. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.2.3; O.C. 329-94, s. 73.

7.2.4. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.2.4; O.C. 329-94, s. 73.

7.2.5. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.2.5; O.C. 329-94, s. 73.

§7.3. Precautions

R.R.Q., 1981, c. S-2.1, r. 6, sec. VII, ss. 7.3; O.C. 329-94, s. 73.

7.3.1. An operator may not use a low velocity explosive actuated tool to drive:

(1) fasteners into:

(a) curved or rounded objects, except if the tool is equipped with a protective device designed for such work;

(b) plaster tiles, hollow bricks or slates;

(c) cast iron, marble, granite, glazed linings and other hard and brittle materials;

(d) steel or alloys that are harded than the fastener used;

(e) hard materials in which holes have already been made, except if the tool is equipped with a device that is capable of holding back the fasteners;

(f) corner bricks or vertical mortar joints;

(g) steel where:

(i) the steel is less than 4.83 mm thick;

(ii) the point of entry of the fasteners is less than 50 mm from a weld;

(iii) the point of entry of the fasteners is less than 13 mm from an edge;

(2) fasteners with a shaft diameter equal to or less than 4.83 mm into concrete where:

(a) the concrete is less than 65 mm thick or equal to 3 times the depth of penetration of the shaft of the fasteners;

(b) the point of entry of the fasteners is less than 50 mm from any unsupported edge;

(c) the point of entry of the fasteners is less than 75 mm from any other fastener that has broken.

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.3.1; O.C. 329-94, s. 73.

7.3.2. Before firing, the operator shall ensure:

(1) that the low velocity explosive actuated tool:

(a) is placed in a stable firing position;

(b) is held so that the barrel of the tool is perpendicular to the firing surface;

(2) that there is no other person within firing range.

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.3.2; O.C. 329-94, s. 73.

7.3.3. Firing incidents: Where a firing incident or a misfire occurs, the low velocity explosive actuated tool shall be held in its firing position for at least 15 seconds; the tool shall then be unloaded. In such a case, the barrel of the tool shall:

(1) not be pointed toward the operator or any other person;

(2) be held pointing obliquely toward the ground;

(3) be held as far as possible from the body of the operator.

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.3.3; O.C. 329-94, s. 73.

7.3.4. The employer shall prohibit the use of a low velocity explosive actuated tool in shops or any other area where the concentration of inflammable vapours, gases or dust has reached the lower explosive limit.

O.C. 329-94, s. 73.

§7.4. Maintenance and repair

R.R.Q., 1981, c. S-2.1, r. 6, sec. VII, ss. 7.4; O.C. 329-94, s. 73.

7.4.1. The employer shall ensure:

(1) that any low velocity explosive actuated tool is:

(a) checked before its first use each day;

(b) regularly inspected to detect worn or damaged parts, in accordance with the manufacturer's recommendations;

(2) that all parts of the low velocity explosive actuated tool have been cleaned after its use;

(3) that the safety devices on any low velocity explosive actuated tool are in proper working order.

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.4.1; O.C. 329-94, s. 73.

7.4.2. Only spare parts recommended by the manufacturer shall be used.

R.R.Q., 1981, c. S-2.1, r. 6, s. 7.4.2; O.C. 329-94, s. 73.

7.4.3. No low velocity explosive actuated tool may be used where any of its parts or accessories is defective.

O.C. 329-94, s. 73.

§7.5. Storage

O.C. 329-94, s. 73.

7.5.1. When it is not in use, any low velocity explosive actuated tool shall be placed in a case designed for that purpose. The case shall contain:

(1) a copy of the manufacturer's instructions for the use and maintenance of the tool;

(2) all the accessories and implements necessary for maintenance of the tool at the work site;

(3) a logbook recording the date of each inspection provided for in subparagraph *b* of paragraph 1 of section 7.4.1 as well as the date and type of each repair made.

O.C. 329-94, s. 73.

7.5.2. The case provided for in section 7.5.1 and the boxes containing the fasteners shall be put in a place that:

(1) is kept locked; or

(2) is inaccessible to unauthorized persons.

O.C. 329-94, s. 73.

§7.6. Notices

O.C. 329-94, s. 73.

7.6.1. The following notices shall be affixed permanently and shall be clearly legible:

(1) on each low velocity explosive actuated tool:

(a) the manufacturer's name or trademark;

(b) the type and model of the tool;

(c) the strength of the maximum charge permitted by the manufacturer's specifications;

(2) on the accessories: the manufacturer's name or trademark;

(3) on each box containing fasteners:

(a) the manufacturer's name or trademark;

(b) the nominal dimensions of the fasteners;

(4) on each box containing explosive charges:

(a) the manufacturer's name or trademark;

(b) the place where it was manufactured;

(c) the strength of the explosive charge of the cartridges.

O.C. 329-94, s. 73.

DIVISION VIII
UNDERGROUND WORK SITES

§8.1. Fire prevention and protection

8.1.1. A temporary building built on the surface less than 12 m away from an opening giving access to an underground work site or erected in the underground work site shall:

(1) be of non-combustible construction; or

(2) be protected against fire in the following way:

(a) the building shall be equipped, inside and outside, with portable fire extinguishers complying with section 3.4.4 of this Code;

(b) the construction site shall be equipped with:

(i) a water supply system not less than 300 litres per minute during at least 30 minutes under a minimum residual pressure of 80 kPa; and

(ii) flexible rubber or plastic hoses not more than 15 m in length and not less than 19 mm inside diameter, equipped with nozzles. Moreover, hoses shall be so located that every part of the building can be sprayed with a stream of water and sprayed areas must be within 6 m from the nozzle of the hose supplying the spray.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.1.1; O.C. 329-94, s. 74.

8.1.2. In addition to complying with the provisions of NFPA 30 Flammable and Combustible Liquids Code, the storage of flammable liquids in an underground work site must

(a) be in closed reservoirs of 200 litres with a tap or in safety tanks holding not more than 20 litres equipped with a neck which closes by means of a spring cover and so designed as to allow the safe release of interior pressure where they are subjected to fire; and

(b) be limited to the amount needed for 1 day's work.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.1.2; O.C. 393-2011, s. 20.

8.1.3. Waste timber, scrap paper, rags and other combustible waste materials shall daily:

(a) be taken from the underground work site; and

(b) be cleared away from around the temporary surface buildings.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.1.3.

8.1.4. No gasoline or liquid petroleum gases shall be lowered into, stored or used in an underground site. However, the propane kept in cylinders may be used for welding.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.1.4.

8.1.5. Oil and grease shall be stored underground in hermetically sealed containers:

(a) placed at safe distances from explosive depots, electric stations and shaft stations; and

(b) in quantities not exceeding those necessary for 1 week.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.1.5.

8.1.6. Every self-propelled vehicle shall be equipped with a portable fire estinguisher complying with section 3.4.4 of this Code.

The driver of the vehicle shall have the necessary knowledge concerning the type of fire extinguisher with which the vehicle is equipped and how it is operated.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.1.6; O.C. 329-94, s. 75.

8.1.7. **Temporary building:** A temporary building for an underground work site shall not be installed in traffic areas.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.1.7.

§8.2. Ground stability

8.2.1. The employer shall ensure that experienced workers scale or shore up the earth liable of coming away from a wall.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.2.1.

8.2.2. The employer shall ensure that experienced workers continually check and examine the vault, heading-face, partition walls of each work area and travelways for workers or equipment.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.2.2.

8.2.3. Overhanging masses and materials liable to fall off from the banks during the work shall be cut down or shored up immediately.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.2.3.

8.2.4. Scaling bars shall be:

(a) of an appropriate length so as to work safely and efficiently;

(b) pointed at one end; and

(c) equipped with a protector for hands.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.2.4.

8.2.5. Workers who check or scale earth liable of falling shall:

(a) proceed by starting from solid ground;

(b) place their feet in a firm stance; and

(c) have enough free space to allow get away.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.2.5.

8.2.6. Equipment placed at the disposal of workers for scaling shall be designed so as not to endanger them.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.2.6.

8.2.7. Pieces of timber or steel, shotcrete or other supports necessary for shoring shall be put into place quickly and solidly.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.2.7.

8.2.8. Damaged or dislocated supports shall be repaired or replaced without delay and new supports shall be put into place if possible, before the damaged supports are removed.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.2.8.

8.2.9. Shoring, if necessary, shall follow shaft-sinking in order to prevent the fall of rocks from the partition walls.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.2.9.

8.2.10. During rock bolting, the required bolts shall be:

(a) put into place as soon as a zone has been exposed; and

(b) equipped with a stress distribution plate on the rock.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.2.10.

§8.3. Ventilation and air quality

8.3.1. The concentration of impurities in the air shall be kept at less than the permissible values indicated in Schedule I to the Regulation respecting occupational health and safety (chapter S-2.1, r. 13). The underground site shall be supplied with fresh air. The minimum volume of air must be equivalent to the greatest of the following requirements:

(a) 5.5 m^3 per minute of fresh air for each worker underground;

(b) 15 m^3 of fresh air per minute for each square metre of section for tunnels; or

(c) where there is mobile equipment driven by a diesel engine:

(i) certified by the National Institute for Occupational Safety and Health (NIOSH), the supply of fresh air shall be based on the values given in Schedules 24 and 31 of that Institute;

(ii) certified by the Department of Energy, Mines and Resources of Canada, the supply of fresh air shall be that specified at the time of certification of the equipment; or

(iii) not certified, the fresh air supply shall correspond to a minimum rate of 5.5 m^3 per minute per kilowatt measured at the motor shaft and the total quantity of fresh air necessary when several of these machines are in operation at the same time shall be:

(A) 100% of the given supply for the most stringent unit from the point of view of ventilation;

(B) 75% of the given supply for the second unit; and

(C) 50% of the given supply for each additional unit;

(d) the fresh air supply, as specified in paragraphs *a, b* and *c* shall be increased where applicable until the concentration of impurities in the air is reduced to the permissible value indicated in Schedule I to the Regulation respecting occupational health and safety.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.1; O.C. 885-2001, s. 377.

8.3.2. The test samples of the fresh air supply for concentration of carbon monoxide, nitrogen dioxide or other noxious gases in an underground work site shall be performed as often as necessary, but at least 2 times each day, and one of these, one hour after the beginning of operations. All test results shall be compiled and made available for the inspector's examination.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.2.

8.3.3. Ventilators shall:

(a) operate at all times when workers are in the underground work site and if ventilators are stopped while the underground work site is unoccupied, they shall be put into operation for a sufficient period of time prior to the beginning of operations in order to ensure proper ventilation;

(b) be placed in constructions of fireproof materials; and

(c) be equipped with a surface remote control device.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.3.

8.3.4. The employer shall ensure that the fresh air supply for the ventilation system is without impurities, and for this purpose:

(a) the ventilation ducts shall be placed so as to prevent the return of foul air into the air supply system through the shaft or tunnel entrance; and

(b) vehicles not directly involved in the underground work site shall be kept at a distance of at least 15 m from the access or opening connected to the underground work site.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.4.

8.3.5. The access to abandoned zones and any non-ventilated sector of the work site shall be declared prohibited for workers.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.5; O.C. 885-2001, s. 375.

8.3.5.1. Traffic lanes used by vehicles shall be free from any obstruction.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.5.1.

8.3.6. Self-propelled vehicles used for performing work in underground work sites shall:

(a) if they are powered by an internal combustion diesel type engine, be equipped with an exhaust-gas cooling system making it possible to keep the gas at 83 °C, whatever the motor's operating conditions may be;

(b) be equipped with position lights indicating their maximum width;

(c) not discharge into the air non-diluted exhaust gas containing over 0.25% carbon monoxide.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.6; O.C. 885-2001, s. 376.

8.3.7. On an underground construction site, any motor vehicle with a gasoline-powered engine and used for supervising operations shall:

(a) have an engine with a displacement of less than 6 litres;

(b) be equipped with emission control devices, in accordance with the standards prescribed in the Motor Vehicle Safety Regulations (C.R.C., c. 1038) under the Motor Vehicle Safety Act (S.C. 1993, c. 16), with the same efficiency of performance as initially; and

(c) have a maximum gross mass of 2,720 kg.

When such a motor vehicle stops in an underground construction site, its driver shall turn off the engine.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.7; O.C. 606-2014, s. 21.

8.3.8. When a vehicle used for the surveillance of underground work is immobilized, the engine shall be turned off.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.8.

8.3.9. The standard grades of distilled diesel fuel shall have:

(a) a flash point of a minimum of 65 ºC; and

(b) a sulphur content less than 0.25%.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.9.

8.3.10. A warning system shall be set up to warn operators to stop the motor of the self-propelled vehicle and to prohibit the firing of explosives in case the ventilation system should break down.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.10.

8.3.11. When the concentration of flammable gas vapours is greater than 25% of the lowest explosion limit, the work shall be stopped immediately in the affected zone and workers evacuated.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.11.

8.3.12. The scrubber system or the oxy-catalyst exhaust purifier system shall be:

(a) checked at frequent intervals; and

(b) kept in good working order.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.3.12.

§8.4. Explosives

R.R.Q., 1981, c. S-2.1, r. 6; O.C. 1959-86, s. 77.

8.4.1. The provisions of Division IV of the Code that are consistent with this subdivision apply with the necessary modifications.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.4.1; O.C. 1959-86, s. 77.

8.4.2. Only explosives or a combination of explosives developing Class I blasting fumes as established by the Department of Energy, Mines and Resources of Canada may be used in an underground job-site.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.4.2; O.C. 1959-86, s. 77.

8.4.3. Explosives and detonators must be transported directly to the site where they will be used in the underground job-site only at loading time, once all other operations have been completed and the equipment not required for the loading of explosives has been moved away.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.4.3; O.C. 1959-86, s. 77.

8.4.4. If explosives are transported in a shaft:

(a) explosives and detonators shall not be transported together;

(b) only the operator of the cage may travel with the explosives;

(c) the operator of the winch and the cage operator's helpers must be notified; and

(d) the transportation of other materials in the shaft is prohibited.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.4.4; O.C. 1959-86, s. 77.

8.4.5. When explosives or blasting accessories are hauled by a locomotive:

(a) explosives and blasting accessories must not be transported on the locomotive; and

(b) explosives carriers must be pulled. They may, however, be pushed by hand only.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.4.5; O.C. 1959-86, s. 77.

8.4.6. If explosives are stored in an underground job-site, the employer must establish the supply of explosives for a 24-hour period and not store underground a greater amount of explosives.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.4.6; O.C. 1959-86, s. 77.

8.4.7. **Storage:**

(1) Explosives and detonators may be stored in an underground job site only if they are kept in a depot or powder house. This depot must be situated at least:

(a) 750 m from a blasting area;

(b) 450 m from the firing switch;

(c) 90 m from the shaft or work zone; and

(d) 7.5 m from a travelway.

(2) There must be at least one right angle turn in the pathway which connects the storage area with any work zone or travelway.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.4.7; O.C. 1959-86, s. 77.

8.4.8. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.4.8; O.C. 1959-86, s. 77.

8.4.9. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.4.9; O.C. 1959-86, s. 77.

§8.5. Drilling

8.5.1. Workers who use or work near drilling machines shall be positioned so as not to be hit or to lose their balance in case a drill-bit breaks, slips or is jammed.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.5.1.

8.5.2. Workers shall not hold the steel drill-bit with their hands.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.5.2.

8.5.3. The supply of compressed air in the hose shall be cut off and drained before the displacement of the portable drills from one face to the other.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.5.3.

8.5.4. The platforms of jumbos shall be equipped:

(a) on their sides with fixed or removable guardrails if their height is greater than 1.2 m; and

(b) with an access ladder if their height is greater than 1.8 m.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.5.4.

8.5.5. Jumbos shall be solidly fixed in positions to avoid accidental displacement.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.5.5.

8.5.6. Drill-bits and their accessories shall be placed on the jumbos in boxes, and placed on supports or their equivalent when not used on the platform.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.5.6.

8.5.7. Unless equipped with a threaded coupling, compressed air hoses of 50 mm or more in interior diameter, mounted on a jumbo, shall be equipped at each end with a steel cable 5 mm in diameter or with an equivalent safety chain to prevent a whipping action.

Compressed air hoses smaller in diameter shall be equipped with a self-tightening device.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.5.7.

8.5.8. Any air line installed underground shall be:

(a) if metallic, placed so that it is protected from any shock capable of being caused by equipment or self-propelled vehicles; or

(b) if flexible, equipped with collars attached by a chain on each side of the coupling.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.5.8.

§8.6. Transportation of personnel and materials in a shaft

8.6.1. If the depth of a shaft is less than 60 m, hoisting apparatus or equipment governed by Subdivision 3.10 may be used for the transportation of personnel in a shaft.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.6.1.

8.6.2. If the depth of a shaft is to exceed or exceeds 60 m the transportation of personnel and materials shall be done according to the Regulation respecting occupational health and safety in mines (chapter S-2.1, r. 14).

A copy of the Regulation respecting occupational health and safety in mines shall be available on any construction site where underground work is being performed.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.6.2; O.C. 213-93, s. 540.

§8.7. Traffic

8.7.1. The employer shall prepare a compartment reserved exclusively for the circulation of workers by means of ladders or stairs in:

(a) any shaft over 30 m in depth;

(b) a raise inclined more than 55º with respect to the horizontal and dug on a length of more than 18 m except when the equipment used allows safe access.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.7.1.

8.7.2. The compartment for ladders or stairs in a shaft shall be separated from the compartment or the section of the shaft in which material, hoisting engines, or a counterweight are moved about, by a wire mesh made of No. 9 AWG galvanized steel wire and forming links of not more than 40 mm on a side so that the persons travelling in the compartment will not be struck by the conveyance or the counterweight or be hit by objects that may fall into the shaft.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.7.2; O.C. 393-2011, s. 21.

8.7.3. Shafts and raises inclined more than 30º with respect to the horizontal shall be equipped with ladders or stairs.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.7.3.

8.7.4. The minimum open space required for movement on a ladder shall be 600 mm × 600 mm.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.7.4.

8.7.5. A clearance space shall be ensured along the length of travelways.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.7.5.

8.7.6. Hazards which may result due to an abrupt change in the clearance space shall be clearly indicated in a travelway.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.7.6.

8.7.7. A flexible ladder may be used if the use of a rigid ladder is impossible and on condition that it is:

(a) solidly anchored at both ends; and

(b) suspended so that movement of hands and feet is not restricted.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.7.7.

8.7.8. Any travelway in an underground work site shall be provided with shelter spaces:

(a) if the travelway does not have, when a piece of equipment travels on tracks or by any other guided system, a minimum free space of 500 mm between the widest part of the machinery and the wall of each side of the equipment, or a free space of 600 mm on one side of the equipment;

(b) if the width of the travelway does not exceed the width of the equipment not travelling on tracks by at least 1.5 m.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.7.8.

8.7.9. The shelter spaces shall:

(a) have a free space of 750 mm and have a height of 1.8 m or be the height of the travelway if it is less than 1.8 m;

(b) be clearly indicated;

(c) be at maximum intervals of 30 m; and

(d) be free of any obstruction.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.7.9.

§8.8. Loading and transportation

8.8.1. Pneumatic equipment shall be equipped with a valve which cuts the air supply to the machine and this valve shall be kept closed when the equipment is not in operation.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.8.1.

8.8.2. If shelter spaces are required, self-propelled vehicles shall reduce speed to walking speed, and they shall sound a warning when they approach:

(a) workers or a work zone; or

(b) a zone where visibility is limited.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.8.2.

8.8.3. Any locomotive shall be equipped with:

(a) alarm signals;

(b) lights which can light up the travelway in 2 directions;

(c) marker lights indicating its maximum width; and

(d) an amber flashing light visible from any direction when in movement.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.8.3.

8.8.4. Railroads shall be:

(a) kept in good condition;

(b) constructed so as to prevent derailment;

(c) reasonably level; and

(d) free of bumps and obstructions.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.8.4.

8.8.5. A stop block shall be provided for a convoy or a car stationed on a plane with an incline greater than 1 1/2%.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.8.5.

8.8.6. **Passenger wagons:**

(1) If wagons are used to transport workers to their work areas, they shall:

(a) be passenger type wagons;

(b) be pulled at speeds appropriate to the condition of the travelway and the equipment used;

(c) be in sufficient number; and

(d) not carry materials and tools other than hand tools.

(2) The convoy shall be under the responsibility of a qualified person.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.8.6.

8.8.7. Workers who use passenger wagons shall:

(a) remain seated; and

(b) not board or leave the convoy while it is moving.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.8.7.

8.8.8. Only those self-propelled vehicles directly involved in an underground work site may be stationed during the periods when the underground work site is not in operation.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.8.8.

§8.9. Hygiene

8.9.1. **Underground work site - Changing room and shower:** In every underground work site, the employer must provide workers with a changing room located on the surface that complies with section 3.2.11 and a shower that complies with section 3.2.15.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.9.1; O.C. 393-2011, s. 22.

8.9.2. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.9.2; O.C. 393-2011, s. 23.

8.9.3. *(Revoked).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.9.3; O.C. 393-2011, s. 23.

8.9.4. The employer shall put waterproof clothing at the disposal of any worker who works in an excessively damp zone.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.9.4.

§8.10. Lighting

8.10.1. Any worker shall carry a miner's lamp unless a fixed system of lighting is available in the underground work site.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.10.1.

8.10.2. If a fixed lighting system exists, the lighting intensity shall be appropriate to the nature of the areas or to the work done in any place where persons work or circulate.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.10.2.

8.10.3. Stairs and ladders in shafts shall be lighted from top to bottom and landings shall also be lighted.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.10.3.

8.10.4. If workers do not have miner's lamps or portable lamps, an emergency lighting system with an automatic relay shall be available in the underground work site. This system shall be kept in good working condition for a takeover in case of a break in the main supply of electrical current.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.10.4.

§8.11. Communication and standard signals

8.11.1. During the sinking of a shaft, a temporary communications system must be provided.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.11.1.

8.11.2. At the end of all shaft sinking operations and before tunnelling operations, each shaft used for hoisting whose depth is more than 15 m shall be equipped between the bottom of the shaft and the surface with 2 distinct signalling systems which may be electric, pneumatic or mechanical. One of these systems shall be connected to a telephone or to a speaking-tube.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.11.2.

8.11.3. Hoisting signals shall be adopted and used at each hoisting shaft in conformity with Schedule 4, if visual signals cannot be understood.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.11.3.

8.11.4. Standardized signals may be established which correspond with local conditions, provided that they are easily discernible and do not conflict with established standard signals.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.11.4.

8.11.5. A legible copy of standard signals and of standardized signals if need be, shall be posted in full view of the hoisting operator and in all locations where signals may be given or received.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.11.5.

8.11.6. No worker shall be taken into a shaft as long as the appropriate signals have not been previously given.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.11.6.

8.11.7. The devices for transmitting signals shall be kept within easy reach at the bottom of the shaft during sinking operations.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.11.7.

8.11.8. When tunnels cover a distance of more than 150 m from the base of a shaft, a telephone system shall be installed with extensions:

(a) at the surface;

(b) at the base of the shaft; and

(c) at a maximum distance of 75 m from the face.

Telephone outlets shall be installed at intervals of 150 m along the tunnel.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.11.8.

8.11.9. The beginning of any fire, explosion or other emergency shall be signalled by 9 intermittent signals originating from the lighting system.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.11.9.

§8.12. Emergency measures

8.12.1. An evacuation and rescue procedure shall be set up and kept up-to-date. All means of egress shall be indicated and all workers shall be familiar with this procedure and the means of egress.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.12.1.

8.12.2. A rescue team shall be available at all times. This team shall be made up of at least 3 persons who shall:

(a) be in excellent physical condition;

(b) have received pertinent training:

(i) in rescue procedures;

(ii) in the use, maintenance and the ultimate capacity of oxygen respirators; and

(iii) in the use and maintenance of fire fighting equipment; and

(c) carry out rescue drills.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.12.2.

8.12.3. A control system for entrances and exits shall be enforced in an underground work site and register of workers involved in the underground works shall be available at the surface.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.12.3.

§8.13. Minimum age

8.13.1. No person below 18 years of age shall be employed underground, at the face of an open pit site or at the controls of hoisting or moving equipment.

R.R.Q., 1981, c. S-2.1, r. 6, s. 8.13.1.

DIVISION IX
WORKS IN COMPRESSED AIR

§9.1. Generalities

9.1.1. The employer shall ensure that no one smokes in an air lock or in a working chamber.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.1.1.

9.1.2. The employer shall ensure that:

(a) no one in an inebriated state enters a working chamber or any place used for the operation of working chambers; and

(b) no alcoholic beverage is brought into such places.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.1.2.

9.1.3. Two means of communication between working chambers, intermediate air locks, the power plant and the exit at atmospheric pressure shall be maintained at all times. One of the means of communication shall be the telephone.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.1.3.

9.1.4. The person responsible for the air lock shall be constantly at the controls when persons are in compressed air in the air lock.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.1.4.

9.1.5. The employer shall not commence works before:

(a) having notified the Commission in writing;

(b) having submitted the drawings required in paragraph *c* of subsection 2 of section 2.4.1 as well as the specifications of the operations; and

(c) having obtained the written authorization of the Commission.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.1.5; O.C. 1959-86, s. 78.

9.1.6. The inspector may, when visiting the site, be accompanied by a public health physician.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.1.6.

9.1.7. Before submitting any worker to compressed air, the employer shall provide an air lock for each working chamber.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.1.7.

9.1.8. **Minimum age:** The minimum age for compressed air workers is 18 years.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.1.8.

9.1.9. Acetylene shall not be used during work in compressed air.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.1.9.

§9.2. Hours of work and rest periods

9.2.1. The maximum working period, as well as the ensuing minimum rest period, shall be in accordance with Schedule 3.1.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.2.1.

9.2.2. The working and rest periods shall be determined according to the maximum pressure reached during the working period.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.2.2.

9.2.3. The rest period listed in Columns 4 and 6 of Schedule 3.1 may include the time a person spends in the air lock while being decompressed to atmospheric pressure immediately prior to his rest period.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.2.3.

9.2.4. When the total duration of a working period is less than that listed in Columns 3 and 5 of Schedule 3.1, the rest period specified in Columns 4 and 6 respectively may be reduced in the ratio of the total working period to the maximum time permitted under Column 3 or 5, as the case may be.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.2.4.

9.2.5. The rest period allotted for meals shall never be less than one-half hour.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.2.5.

9.2.6. The pressure in a working chamber shall not exceed 350 kPa, for more than 5 minutes except when necessary for the safety of persons during an emergency, in which case:

(a) the inspector shall be notified immediately by the employer;

(b) the pressure in the working chamber shall be the least that meets the emergency;

(c) the maximum hours of the working periods and the minimum hours of the rest periods shall be determined by the project physician; and

(d) the project physician shall establish the rates for compression and decompression procedures.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.2.6.

9.2.7. The compression procedure shall be as follows:

(a) when a person is in the intermediate air lock, the air pressure shall be uniformly applied and shall not exceed 35 kPa during the first 2 minutes of application;

(b) the pressure shall not be raised to more than 35 kPa until it has been ascertained that any person in the air lock is free from discomfort due to air pressure; and

(c) the air pressure may then be raised in the air lock at a rate not exceeding 35 kPa per minute subject to the condition stipulated in paragraph *b*.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.2.7.

9.2.8. **Decompression procedure:**

(1) The employer shall ensure that no worker goes from his place of work to atmospheric pressure without going through decompression in the intermediate air lock.

(2) The decompression procedure shall be as follows:

(a) when the maximum pressure is under 40 kPa, the pressure shall be reduced at a rate not exceeding 35 kPa per minute;

(b) when the maximum pressure is 40 kPa or more, the pressure shall be reduced in 3 stages as follows:

(i) the first stage shall be a reduction from maximum pressure to one-half maximum pressure, at a rate not exceeding 35 kPa per minute;

(ii) the second stage shall be a reduction from one-half maximum pressure to 1/4 maximum pressure, at a rate not exceeding 14 kPa per minute; and

(iii) the third stage shall be a reduction from 1/4 maximum pressure to atmospheric pressure, at a rate not exceeding:

(A) 3.5 kPa per minute when the maximum pressure is not over 140 kPa; or

(B) 1.7 kPa per minute when the maximum pressure is over 140 kPa but not more than 350 kPa.

(3) A copy of Schedule 3.2 giving decompression periods shall be posted at the controls and in each air lock.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.2.8.

9.2.9. A person may be decompressed in 3 stages as described in section 9.2.8 at a rate not greater than twice the rate stipulated, if:

(a) he has had previous experience with the hazards of compressed air;

(b) he has been subject to air pressure not exceeding 200 kPa for one-half hour or less and has not performed manual work therein; and

(c) no person is in the air lock during decompression other than the person to whom paragraphs *a* and *b* apply.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.2.9.

9.2.10. Any employer shall keep a record for each worker listing hours worked, decompression and rest periods. He shall also note all unfavorable symptoms observed or admitted by any worker leaving a compressed air area.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.2.10.

§9.3. Air supply

9.3.1. Two or more air compressors shall be installed so that, if one unit becomes inoperative, the remaining unit or units will be of sufficient capacity to supply the air required for all working chambers and air locks.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.3.1.

9.3.2. The energy required to supply compressed air to working chambers and air locks shall be readily available from at least 2 independent sources.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.3.2.

9.3.3. For caisson works, at least 2 air lines shall supply air to each air lock and working chamber.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.3.3.

9.3.4. Supervision of compressors:

(1) The employer shall designate one or more qualified persons to take charge of the compressors supplying the working chamber and locks and to continually supervise their operation during the works.

(2) The compressors supplying the working chamber and the locks shall be kept in working order and shall be checked every 24 hours.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.3.4.

§9.4. Air locks and working chambers

9.4.1. Any air lock shall be designed and built according to a drawing signed and sealed by an engineer.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.4.1.

9.4.2. A copy of these drawings shall be kept in the office of the job site.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.4.2.

9.4.3. Every air lock door shall be equipped with a glass bull's-eye. Valves and lines connected to the air supply and exhaust shall be arranged so that the air locks may be operated from inside and from outside.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.4.3.

9.4.4. Air locks for workers shall be large enough so as to avoid cramped positions. They shall be at least 2 m high and shall contain a timepiece, thermometer and a pressure gauge which will indicate the air pressure in the air lock.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.4.4.

9.4.5. A radiant heating system shall be provided for in each air lock, if the pressure exceeds 95 kPa.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.4.5.

9.4.6. Valve: A valve shall be installed on each of the 2 air supply lines in each working chamber or in each air lock.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.4.6.

9.4.7. Safety valve: A safety valve shall be installed in each working chamber and in each air lock to control automatically the excess pressure. These valves shall be regulated for the minimum pressure between:

(a) the pressure for which the air lock is designed;

(b) a pressure greater by 70 kilopascals than that used in the working chamber.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.4.7.

9.4.8. Air supply:

(1) Each air supply line shall discharge as near as possible to the caisson's bottom opening and the air supply shall contain no deleterious substances.

(2) A refrigeration system shall be used so that the air supplied to the shafts and the caissons is of a moderate temperature.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.4.8.

9.4.9. The working chamber shall contain a portable gauge to indicate pressure and a thermometer. Both shall be placed not further than 3 m from the working face. A gauge indicating the air pressure in the decompression lock shall be placed on the partition separating the working chamber from the air lock.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.4.9.

9.4.10. If a high-pressure air supply line is brought into the working chamber to operate a machine, check valves and safety valves shall be provided so as to avoid any possible increase in pressure in the working chamber.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.4.10.

§9.5. Pressure gauges

9.5.1. Any air lock used for workers shall be equipped with a pressure gauge which shall record the decompression rate. The record of such pressure gauge shall readily indicate the variations in air pressure at intervals of at least one minute.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.5.1.

9.5.2. A back-pressure gauge shall be placed outside each working chamber. This pressure gauge shall be located so as to be easily readable and shall always be in perfect working order.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.5.2.

9.5.3. **Testing:**

(1) Additional fittings shall be installed so as to enable the use of a test gauge.

(2) Every 24 hours, pressure gauges measuring exterior pressure shall be tested and the results shall be recorded.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.5.3.

9.5.4. **Lock tender:**

(1) The employer shall entrust to a competent worker the operation of valves and pressure gauges which regulate and indicate the air pressure in the working chamber. Such worker shall work not more than 9 hours in a 24-hour period. In caisson works, such worker shall not be required to operate more than 2 separate air supplies.

(2) Any working chamber shall be equipped with a recording pressure gauge and with a needle dial pressure gauge which shall at all times indicate the actual pressure in the working chamber. Such pressure gauges shall be installed in full view of the lock tender.

(3) While persons are under compressed air, the employer shall make sure that there is another qualified person available on the site to perform the duties of a lock tender in an emergency.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.5.4.

§9.6. Electric power supply and lighting

9.6.1. Working chambers shall be electrically lighted and emergency flashlights shall be placed in each air lock, working chamber or communicating shaft.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.6.1.

9.6.2. Electric wires other than those used for signals and communication which pass through an air lock shall be placed in a rigid metal pipe.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.6.2.

9.6.3. Electric bulbs attached to wires in a rigid metal pipe shall be covered with glass and a metal grill.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.6.3.

§9.7. Hygiene and welfare

9.7.1. **Compressed air - Changing room and shower:** For work in compressed air, the employer must provide workers with a changing room that complies with section 3.2.11 and a shower that complies with section 3.2.15.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.7.1; O.C. 393-2011, s. 24.

9.7.2. A sufficient supply of hot coffee and sugar shall be supplied by the employer to workers at the end of shifts and at meal times. The coffee shall be heated by means other than direct steam.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.7.2.

§9.8. Medical examinations and services

9.8.1. Any employer carrying out works in compressed air shall employ one or more physicians familiar with and experienced in the physical requirements and the different medical aspects of work in compressed air and also with the treatment for decompression ailments. Such physician shall be available at all times while work is going on.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.8.1.

9.8.2. No worker may work in compressed air unless he has been previously subjected to an examination by the physician and found by him to be physically fit to work in compressed air. For this purpose, the physician shall have the worker undergo a medical examination in the test air lock or in the medical lock. Such worker may not work under any pressure for longer than one half-day unless he has been re-examined by the physician and found physically fit to do so.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.8.2.

9.8.3. When a worker is away from work for more than 10 successive days, he may not resume work before having undergone another medical examination.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.8.3.

9.8.4. A worker who has worked continually in compressed air for a period of time set by the physician, but not exceeding one year, shall undergo another medical examination and he may not resume his work without having been found physically fit to do so.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.8.4.

9.8.5. The physician shall at all times keep:

(a) a complete record of all examinations; and

(b) a record of any disease caused by decompression or of other diseases or injuries preventing any employee from working.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.8.5.

9.8.6. The employer shall supply a medical lock when the site is more than 16 km from a hospital equipped for treating ailments caused by decompression.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.8.6.

9.8.7. The medical lock shall:

(a) be divided into at least 2 compartments at least 1.8 m high in the middle;

(b) be located as near as possible from the working chamber;

(c) be ready for immediate use during the 5 hours following the exit of an employee from the working chamber;

(d) be heated, lighted and ventilated;

(e) be maintained in a clean and sanitary condition;

(f) be designed to support a pressure of 520 kPa;

(g) be equipped with an unbreakable bull's eye through which the occupants can be kept under constant surveillance;

(h) be equipped with internal controls and external override controls;

(i) be equipped with a pressure gauge to indicate the air pressure inside each compartment, which can be read from the inside and the outside of the medical lock;

(j) be equipped with a system of sprinklers which can be operated manually from either the inside or the outside of the lock;

(k) be equipped with oxygen supply lines and accessories leading to outside tanks. The supply lines shall be equipped with control valves in order to prevent backflow. The oxygen system inside the lock shall be of the closed-circuit type and designed in such a way that the oxygen supply is automatically cut off when the fire prevention system is turned on;

(l) be under the constant responsibility of a person under direct control of the site's physician. This person shall know how to operate the medical lock and be familiar with the procedures for treating employees showing signs of a decompression ailment;

(m) be equipped with medical facilities containing the oxygen respiratory equipment approved by the National Institute for Occupational Safety and Health (NIOSH);

(n) be maintained at a temperature not lower than 21 ºC, and not higher than 32 ºC when in use;

(o) be equipped with air sources free of carbon monoxide and oil for normal and emergency use, which are capable of raising the air pressure in the lock from 0 to 520 kPa in 5 minutes;

(p) be equipped with a trestle bed; and

(q) be constructed and fitted with non-combustible materials.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.8.7.

9.8.8. In the immediate vicinity of the medical lock, there shall be a well-equipped first aid room containing all the necessary drugs and surgical instruments for the administration of first aid to accident victims.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.8.8.

9.8.9. The employer shall ensure that any worker doing work in compressed air wears a medical bracelet indicating that he works in compressed air, the location of the medical lock and with instructions to carry him to that lock in case of emergency.

R.R.Q., 1981, c. S-2.1, r. 6, s. 9.8.9.

DIVISION X
WORK ON ROADS OPEN TO TRAFFIC

R.R.Q., 1981, c. S-2.1, r. 6, Div. X; O.C. 995-91, s. 12.

§10.1. Definitions

R.R.Q., 1981, c. S-2.1, r. 6, sd. 10.1; O.C. 995-91, s. 12.

10.1.1. In this subdivision:

“public highway” means a public highway within the meaning of the Highway Safety Code (chapter C-24.2); (*chemin public*)

“road vehicle” means a road vehicle within the meaning of the Highway Safety Code. (*véhicule routier*)

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.1.1; O.C. 995-91, s. 12.

§10.2. Scope

R.R.Q., 1981, c. S-2.1, r. 6, sd. 10.2; O.C. 995-91, s. 12.

10.2.1. This Division applies to any construction site or part thereof located on or bordering on a public highway or private road open to public vehicular traffic.

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.2.1; O.C. 995-91, s. 12.

10.2.2. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.2.2; O.C. 995-91, s. 12.

10.2.3. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.2.3; O.C. 995-91, s. 12.

§10.3. Traffic signs

R.R.Q., 1981, c. S-2.1, r. 6, sd. 10.3; O.C. 995-91, s. 12.

10.3.1. The principal contractor must ensure that any construction site or part of a construction site situated on or near a public highway or a private road open to public vehicular traffic has traffic signs that comply with the standards of Chapters 1, 4 and 6 of Volume V of the manual entitled “Traffic Control Devices”, determined and set out by the Minister of Transport under the second paragraph of section 289 of the Highway Safety Code (chapter C-24.2).

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.3.1; O.C. 995-91, s. 12; O.C. 873-2003, s. 1.

10.3.2. Where traffic must be directed by a flagman, the employer must ensure that the flagman is vigilant and is familiar with all the responsibilities that his job entails.

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.3.2; O.C. 995-91, s. 12.

§10.4. Other precautions

R.R.Q., 1981, c. S-2.1, r. 6, sd. 10.4; O.C. 995-91, s. 12.

10.4.1. **Night work:** The employer must ensure that workers wear orange vests with reflective bands when working at night.

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.4.1; O.C. 995-91, s. 12.

10.4.2. **Electric lighting:** Electric lighting used in work areas must be positioned in such a manner as not to dazzle users of the road.

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.4.2; O.C. 995-91, s. 12.

10.4.3. **Protection of manholes:**

(1) A portable guardrail made of steel or wood must be used to prevent falls into manholes.

(2) Where the guardrail is made of steel, it must:

(a) be made of metal tubes at least 22 mm in diameter enclosing the manhole on 3 sides, the fourth side being closed off with 2 chains;

(b) be bright in colour, have a middle rail and bear flags with reflective bands; and

(c) conform to figure 1 in Schedule 5.

(3) Where the guardrail is made of wood, it must:

(a) be made of boards 100 mm in width and must enclose the manhole on 3 sides, the fourth being closed off with 2 chains;

(b) bear vertical black bands 100 mm in width on an orange background;

(c) be fitted with flags with reflective bands; and

(d) conform to figure 2 of Schedule 5.

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.4.3; O.C. 995-91, s. 12.

10.4.4. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.4.4; O.C. 995-91, s. 12.

10.4.4.1. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.4.4.1; O.C. 995-91, s. 12.

10.4.5. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.4.5; O.C. 995-91, s. 12.

10.4.6. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.4.6; O.C. 995-91, s. 12.

10.5 *(Replaced)*

R.R.Q., 1981, c. S-2.1, r. 6, sd. 10.5; O.C. 995-91, s. 12.

10.5.1. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.5.1; O.C. 995-91, s. 12.

10.5.2. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.5.2; O.C. 995-91, s. 12.

10.5.3. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.5.3; O.C. 995-91, s. 12.

10.5.4. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.5.4; O.C. 995-91, s. 12.

10.6 *(Replaced)*

R.R.Q., 1981, c. S-2.1, r. 6, sd. 10.6; O.C. 995-91, s. 12.

10.6.1. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.6.1; O.C. 995-91, s. 12.

10.6.1.1. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.6.1.1; O.C. 995-91, s. 12.

10.6.2. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.6.2; O.C. 995-91, s. 12.

10.6.3. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.6.3; O.C. 995-91, s. 12.

10.6.4. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.6.4; O.C. 995-91, s. 12.

10.6.5. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.6.5; O.C. 995-91, s. 12.

10.6.6. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.6.6; O.C. 995-91, s. 12.

10.7 *(Replaced)*

R.R.Q., 1981, c. S-2.1, r. 6, sd. 10.7; O.C. 995-91, s. 12.

10.7.1. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.7.1; O.C. 995-91, s. 12.

10.7.2. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.7.2; O.C. 995-91, s. 12.

10.7.3. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.7.3; O.C. 995-91, s. 12.

10.7.4. *(Replaced).*

R.R.Q., 1981, c. S-2.1, r. 6, s. 10.7.4; O.C. 995-91, s. 12.

DIVISION XI
WORK ABOVE OR NEAR WATER

O.C. 513-2015, s. 5.

11.1. On a site where work will be carried out above or near water, the principal contractor must, before the work begins,

(1) prepare a description of the body of water or watercourse indicating, in particular,

(a) the type of body of water or watercourse and its characteristics during the time of the work;

(b) the means used to know the water temperature and weather conditions;

(2) prepare a description of the work indicating, in particular,

(a) the work sites;

(b) the nature of the work;

(c) the number of workers on the work sites;

(d) the work schedules;

(e) the dates on which the work begins and ends;

(f) the location of the work, lunch and rest areas;

(g) the platforms, barges and other boats, specifying their dimensions, capacity and respective use;

(3) prepare a water transportation plan adapted to the specific conditions of the work and the characteristics of the body of water or watercourse indicating, in particular,

(a) the name of each person in charge of water transportation operations;

(b) the location of the boarding and landing areas;

(c) the boats used to transport workers, specifying the name of each driver, the routes and the direction of the boats;

(d) the safety rules to be complied with during water transportation;

(4) prepare a rescue plan adapted to the specific conditions of the work and the characteristics of the body of water or watercourse indicating, in particular,

(a) the name of each person in charge of rescue operations;

(b) the name of each person in charge of the maintenance or inspection of rescue equipment;

(c) the rescue procedures in case of a worker falling into water, wreck, fire or other accident, and the instructions regarding those matters;

(d) the name of each rescue attendant and each first-aider;

(e) the emergency call code used to start rescue operations;

(f) the location of rescue equipment;

(g) the location of first-aid stations;

(h) if applicable, the type and number of boats intended for rescue.

The descriptions of the work and body of water or watercourse, as well as transportation and rescue plans, must be posted at work sites. They must also be integrated into the prevention program, specifying the means used to inform workers of their content, in particular with regard to safety rules and instructions intended for workers.

O.C. 513-2015, s. 5.

11.2. The principal contractor or the person designated by the principal contractor to prepare the descriptions and plans prescribed by section 11.1 and each person in

charge of transportation or rescue operations must hold a certificate from the Association paritaire pour la santé et la sécurité du travail du secteur de la construction or the Lifesaving Society issued following training of at least 7 hours pertaining in particular to the following:

(a) the hazards associated with working above or near water and the prevention measures to counter those hazards;

(b) the hazards associated with cold water immersion and the prevention measures to counter those hazards;

(c) the identification of the various pieces of safety equipment required to work above or near water and their use;

(d) the identification of the various pieces of rescue equipment required to recover a person in the water and their use;

(e) the requirements of the federal and provincial legislation regarding work above or near water and the use of a boat on a body of water or watercourse;

(f) the preparation and application of transportation and rescue plans.

O.C. 513-2015, s. 5.

11.3. The equipment required by a rescue plan referred to in subparagraph 4 of the first paragraph of section 11.1, as well as any accessories, must be

(a) adapted to the intended use, to the specific conditions of the work and the characteristics of the body of water or watercourse;

(b) inspected and kept in good working order;

(c) present and visible on the premises during working hours;

(d) accessible so that a quick intervention is possible.

O.C. 513-2015, s. 5.

11.4. Where a rescue plan includes the use of a boat, the boat must, in addition to the requirements provided for in section 11.3,

(1) in particular, be

(a) adapted and equipped for the research and recovery of persons;

(b) equipped with a propulsion system adapted to the boat;

(c) equipped with the following rescue equipment:

(i) 2 rope bags, each containing 1 single-length buoyant heaving line that remains flexible, with a minimum diameter of 9.5 mm and a minimum length of 15 m;

(ii) a life buoy with an outside diameter of 762 mm, approved by Transport Canada or by a body recognized by Transport Canada, as evidenced by the tag or approval stamp affixed to it;

(iii) a boat hook;

(2) be used by a team of at least 2 rescue attendants trained in the approach and recovery of a person in conditions and according to the characteristics of the body of water or watercourse where their assistance is needed, and who meet either of the following conditions:

(a) hold a Pleasure Craft Operator Card issued by Transport Canada and a certificate from the Lifesaving Society attesting that training was received in the approach and recovery of persons; or

(b) hold a certificate of competency issued by Transport Canada, other than a Pleasure Craft Operator Card, and a certificate attesting that training was received in Marine Emergency Duties (MED) issued by Transport Canada.

O.C. 513-2015, s. 5.

11.5. During work above or near water, life buoys with an outside diameter of 762 mm must be placed and spread out over the entire length of the site where work is performed, at a maximum linear distance of 60 m between life buoys. The life buoys must be approved by Transport Canada or by a body recognized by Transport Canada, as evidenced by the tag or approval stamp affixed to each of them.

O.C. 513-2015, s. 5.

11.6. A sound alarm system intended to start rescue operations must be present on the work sites.

O.C. 513-2015, s. 5.

SCHEDULE 0.1

(s. 3.5.6)

INCLINE OF A LADDER NOT PERMANENTLY FASTENED

Length of the ladder (L) (metres)
Horizontal distance
Indicates the zone within which the foot of the ladder must be placed.

Horizontal distance between the foot of the ladder and the vertical plane against which it is propped, in relation to the length of the ladder

Length of the ladder (L) (metres)	Horizontal distance	
	1/4 × L (metres)	1/3 × L (metres)
8	2	2.7
10	2.5	3.3

12	3	4
14	3.5	4.7
15	3.75	5

O.C. 329-94, s. 76.

SCHEDULE 1

(Revoked)

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 1; O.C. 425-2010, s. 5.

SCHEDULE 2

HANDLING AND USE OF EXPLOSIVES

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 2.

SCHEDULE 2.1

(Revoked).

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 2.1; O.C. 57-2015, s. 59.

SCHEDULE 2.2

(s. 4.7.10)

RECORD OF SHOTS

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 2.2; O.C. 1959-86, s. 79; O.C. 57-2015, s. 60.

SCHEDULE 2.3

(ss. 4.4.1)

TABLE OF DISTANCES PROPORTIONAL TO QUANTITIES OF EXPLOSIVES CONTAINED IN DEPOTS

Quantity of explosives in kilograms	Distance in metres between the depot and (1)	(2)	(3)	Quantity of explosives in kilograms
50	23	23	9	50
100	23	32	11	100
200	26	52	14	200
250	30	60	15	250
300	34	68	16	300
400	41	82	18	400
500	47	94	19	500
600	53	105	20	600
800	65	130	23	800
1,000	75	150	24	1,000
1,500	100	200	27	1,500
2,000	120	240	30	2,000
2,500	135	270	32	2,500
3,000	150	300	34	3,000
4,000	175	350	38	4,000
5,000	190	380	41	5,000
6,000	200	400	44	6,000
7,000	210	420	46	7,000
10,000	240	480	52	10,000
15,000	270	540	59	15,000
20,000	300	600	66	20,000
25,000	320	640	70	25,000
30,000	340	680	74	30,000
40,000	380	760	82	40,000
50,000	410	820	88	50,000
75,000	470	940	100	75,000
100,000	525	1,050	110	100,000
125,000	558	1,115	120	125,000
150,000	588	1,175	128	150,000

References respecting the Table of Distances in Schedule 2.3.

(1) any outdoor meeting place, road, railroad or waterway, except a road leading to the depot.

(2) any building or any other depot.

(3) any other depot surrounded by dikes.

Remark: For computing the distance,

(a) 1,300 detonators or 150 detonating relays are equal to 1 kg of explosives;

(b) except for the depot for detonators and detonating relays, 2 depots placed side by side may be considered as a single depot having a capacity equal to the total capacity of both depots.

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 2.3; O.C. 1959-86, s. 80; O.C. 57-2015, s. 61.

SCHEDULE 2.4

(Revoked)

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 2.4; O.C. 1959-86, s. 81.

SCHEDULE 2.5

(Revoked)

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 2.5; O.C. 1959-86, s. 81.

SCHEDULE 2.6

(s. 4.7.5)

EVALUATION OF THE MAXIMUM AUTHORIZED PARTICLE SPEED, OF THE DISTANCE BETWEEN BLASTING AND BUILDINGS OR OF THE ACCEPTABLE FREQUENCY OF VIBRATIONS

O.C. 57-2015, s. 62.

SCHEDULE 3

WORKS IN COMPRESSED AIR

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 3.

SCHEDULE 3.1

(ss. 9.2.1, 9.2.3 and 9.2.4)

WORKING HOURS AND REST PERIODS

COLUMN 1 Work pressure for one period	COLUMN 2 Max. Work per 24hr.	COLUMN 3 Max. work 1st period	COLUMN 4 Min. rest 1st period	COLUMN 5 Max. work 2nd period	COLUMN 6 Min. rest 2nd period
	hr	hr	hr	hr	hr
Above normal not exceeding 96 kPa	7 1/2	3 3/4	1 1/4	3 3/4	1/4
Above 96 kPa not exceeding 138 kPa	6	3	2 1/4	3	3/4
Above 138 kPa not exceeding 180 kPa	4	2	3 1/2	2	1 1/2
Above 180 kPa not exceeding 220 kPa	3	1 1/2	4 1/2	1 1/2	1 1/2
Above 220 kPa not exceeding 262 kPa	2	1	5	1	2
Above 262 kPa not exceeding 303 kPa	1 1/2	3/4	5 1/2	3/4	2
Above 303 kPa not exceeding 345 kPa	1	1/2	6	1/2	2

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 3.1.

SCHEDULE 3.2

(s. 9.2.8)

DECOMPRESSION PERIODS

Work pressure	*1st stage from maximum to 1/2*		*2nd stage from 1/2 to 1/4*		*3rd stage from 1/4 to the normal*		*Total time*
	Pressures	*Time*	*Pressures*	*Time*	*Pressures*	*Time*	
kPa	**kPa**	**min**	**kPa**	**min**	**kPa**	**min**	**min**
	From To						

13.5	13.5	0	0.4	From	To		From	To			0.40
27.5	27.5	0	0.8								0.80
41	41	20.5	0.6	20.5	10	0.75	10	0	3.0	4.35	
55	55	27.5	0.8	27.5	13.5	1.00	13.5	0	4.0	5.80	
69	69	34.5	1.0	34.5	17	1.25	17	0	5.0	7.25	
82.5	82.5	41	1.2	41	20.5	1.50	20.5	0	6.0	8.70	
89.5	89.5	44.5	1.3	45	22	1.63	22	0	6.5	9.43	
96.5	96.5	48	1.4	48	24	1.75	24	0	7.0	10.15	
103	103	51.5	1.5	51.5	26	1.88	26	0	7.5	10.88	
110	110	55	1.6	55	27.5	2.00	27.5	0	8.0	11.60	
117	117	58.5	1.7	58.5	29	2.13	29	0	8.5	12.33	
124	124	62	1.8	62	31	2.25	31	0	9.0	13.05	
131	131	65.5	1.9	65.5	32.5	2.38	32.5	0	9.5	13.78	
138	138	69	2.0	69	34.5	2.50	34.5	0	20.0	24.50	
145	145	72	2.1	72	36	2.63	36	0	21.0	25.73	
151.5	151.5	76	2.2	76	38	2.75	38	0	22.0	26.95	
158.5	158.5	79	2.3	79	39.5	2.88	39.5	0	23.0	28.18	
165.5	165.5	82.5	2.4	82.5	41	3.00	41	0	24.0	29.40	
172	172	86	2.5	86	43	3.13	43	0	25.0	30.63	
179	179	89.5	2.6	89.5	44.5	3.25	45	0	26.0	31.85	
186	186	93	2.7	93	46.5	3.38	46.5	0	27.0	33.08	
193	193	96.5	2.8	96.5	48	3.50	48	0	28.0	34.30	
200	200	100	2.9	100	50	3.63	50	0	29.0	35.53	
206.5	206.5	103	3.0	103	51.5	3.75	51.5	0	30.0	36.75	
213.5	213.5	106.5	3.1	106.5	53	3.88	53	0	31.0	37.98	
220.5	220.5	110	3.2	110	55	4.00	55	0	32.0	39.20	
227.5	227.5	113.5	3.3	113.5	56.5	4.13	56.5	0	33.0	40.43	
234	234	117	3.4	117	58.5	4.25	58.5	0	34.0	41.65	
241	241	120.5	3.5	120.5	60	4.38	60	0	35.0	42.88	
248	248	124	3.6	124	62	4.50	62	0	36.0	44.10	
255	255	127.5	3.7	127.5	63.5	4.63	63.5	0	37.0	45.33	
262	262	131	3.8	131	65.5	4.75	65.5	0	38.0	46.55	
269	269	134	3.9	134	67	4.88	67	0	39.0	47.78	
275.5	275.5	138	4.0	138	69	5.00	69	0	40.0	49.00	
282.5	282.5	141	4.1	141	70.5	5.13	70.5	0	41.0	50.23	
289.5	289.5	144.5	4.2	145	72	5.25	72	0	42.0	51.45	
296	296	148	4.3	148	74	5.38	74	0	43.0	52.68	
303	303	151.5	4.4	151.5	76	5.50	76	0	44.0	53.90	
310	310	155	4.5	155	77.5	5.63	77.5	0	45.0	55.13	
317	317	158.5	4.6	158.5	79	5.75	79	0	46.0	56.35	
324	324	162	4.7	162	81	5.88	81	0	47.0	57.58	
330	330	165	4.8	165.5	82.5	6.00	82.5	0	48.0	58.80	
337.5	337.5	169	4.9	169	84	6.13	84	0	49.0	60.03	
345	345	172.5	5.0	172	86	6.25	86	0	50.0	61.25	

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 3.2.

SCHEDULE 4

(s. 8.11.3)

CODE OF SIGNALS

(1) The following code of signals shall be used in underground work sites:

1 bell — Stop immediately — if in motion (executive signal).

1 bell — Hoist (executive signal).

3-3-1 bells — Hoist slowly.

2 bells — Lower (executive signal).

3-3-2 bells — Lower slowly.

1-2 bells — Chairing and unchairing.

3 bells — (Cautionary signal). Men about to ascend or descend. This signal shall be given before men are permitted to enter on leave the hoisting conveyance. It shall also be given in case a stop has been made at a level and men in the conveyance are to be hoisted or lowered to another level. In all cases, after the 3-bell signal has been given, the conveyance shall not be moved until the signals to hoist or lower have been given.

4 bells — (Blasting signal). Hoistman shall answer by raising the bucket, cage or skip a few feet and letting it back slowly. Following a 4-bell signal, only a 1-bell signal shall be required to signal for hoisting of men away from a blast, and the hoistman shall remain at the controls until the act of hoisting has been completed.

5 bells — (Release signal). The hoistman may, after receiving this signal, act at his own discretion to perform any movement or series of movements involving the hoisting conveyance.

9 bells — (Danger signal, special cautionary). To be given only in case of accident, fire or other danger. The signal for the level at which the emergency exists shall be given following the giving of the danger signal. These signals shall be given on the voice communication system or the call system except in shaft sinking or at shaft stations which are not provided with such communication systems.

(2) The following method and order shall be observed in giving signals:

(a) strokes on the bell shall be made at regular intervals;

(b) when men are being hoisted or lowered, signals shall be given in the order designated:

1st — cautionary signal,

2nd — destination signal,

3rd — executive signal.

(3) The hoistman shall delay briefly before moving the hoisting conveyance after receiving a signal designating a movement at any time that men are carried. In case he is unable to act within one minute of the time he has received any complete signal, he shall not move the hoisting conveyance until he has again received another complete signal.

(4) When a hoistman has received a 3-bell signal, he shall remain at the hoist controls until he has received the signal designating the movement required and has

completed that movement. After he has commenced the movement, he shall complete it without interruption, unless he receives a stop signal or in case of emergency.

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 4.

SCHEDULE 5

(s. 10.4.3)

PORTABLE GUARDRAILS

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 5; O.C. 995-91, s. 13.

SCHEDULE 5.1

(Replaced)

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 5.1; O.C. 995-91, s. 13.

SCHEDULE 5.2

(Replaced)

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 5.2; O.C. 995-91, s. 13.

SCHEDULE 5.3

(Replaced)

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 5.3; O.C. 995-91, s. 13.

SCHEDULE 6

(s. 3.24.18)

The right beam-column supporting bracket will have its upper part notched as illustrated to clear the 1st bolt already in place to support the beam

R.R.Q., 1981, c. S-2.1, r. 6, Sch. 6; O.C. 391-2011, s. 3.

SCHEDULE 7

(s. 5.2.2)

SIGNALMAN TRAINING PROGRAM

(1) Construction sites concerned

The program applies to signalmen who perform their duties on construction sites where work is carried out near aerial electrical lines.

(2) Objective of program

To allow any person designated to act as a signalman for an extensible construction equipment operator manoeuvring near aerial electrical lines to acquire the theoretical and practical knowledge needed for the performance of his duties.

(3) Operational objective

To ensure that the employer assigns qualified persons to assist extensible construction equipment operators.

(4) Content of program

Causes of electrocution (induction, lightning, accidental contact, repowering of a dead line, electrostatic induction, loop effect, etc.).

Theoretical notions (resistance of ground rod, pace voltage and touch voltage, effect of currents on trailing cables, etc.).

Laws, regulations and standards in force.

Work methods and equipment.

Prescribed approach distances.

Location of storage areas, handling of materials and filling of gas tanks.

Approach distances applicable to equipment and vehicles in motion.

Safety measures applicable to work in the work area.

The grounding of equipment and loads.

Conventional and hand signals.

(5) Duration of program

This program shall have a duration of at least 24 hours.

O.C. 53-90, s. 11.

SCHEDULE 8

(s. 7.2.1)

TRAINING AND CERTIFICATE OF A LOW VELOCITY EXPLOSIVE ACTUATED TOOL OPERATOR

8.1 Only persons so authorized by the manufacturer of a low velocity explosive actuated tool may be instructors and, in that capacity, supervise the training and qualification of workers wishing to use a low velocity explosive actuated tool.

8.2 Any worker wishing to use a low velocity explosive actuated tool shall have received training covering the following points:

(1) identification of the tool's parts and accessories;

(2) how to operate the tool and its accessories, such as a spall stop;

(3) maintenance of the tool;

(4) identification of damaged or worn parts;

(5) identification of the strength of explosive charges.

8.3 A low velocity explosive actuated tool operator's certificate shall be issued to any worker who:

(1) has received the training provided for in section 8.2;

(2) has demonstrated to his instructor that he is able to perform the operations provided for in section 8.2.

The certificate is issued by the instructor who dispenses the training.

8.4 A low velocity explosive actuated tool operator's certificate shall contain the following information:

(1) the worker's name;

(2) the attestation that the worker has received the training provided for in section 8.2 and has demonstrated that he is able to perform the operations provided for in that section;

(3) the date of issue of the certificate;

(4) the name or trademark of the manufacturer of the tool;

(5) the model of the tool;

(6) the name and signature of the instructor who dispensed the training provided for in section 8.2.

O.C. 329-94, s. 77.

SCHEDULE 9

(s. 2.15.7.2)

MOBILE CRANE LOG

Sheet 1 Crane No. Serial No. Make and Model

Daily inspection for the month of 20

Some of the tests recommended below may not apply depending on the type of crane or on the kind of work to be carried out.
Indicate the result of each field inspection by checking (P), if the element tested is in good condition.
Blacken the square (n) in case of defects and specify those defects on sheet 2.
This log shall be filled during regular working hours by the worker who has carried out the testing, test, field inspection or repair. NAME OPERATOR
(write legibly)

Number of work hours
(Crane) (Cumulative)

	DAY:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
GENERAL																	
1.	Manufacturer's manual																
2.	Windows, windshield wipers and window defroster																
3.	Horn, mirrors and backup alarm																
4.	Boom angle indicator																
5.	Two-blocking warning device																
6.	Boom length indicator																
7.	Drum rotation indicator																
8.	Dials, gauges																
9.	Engine — upperworks, oil, water and belts																
10.	Machinery guards																
11.	Boom angle limit switch																
12.	Fire extinguishers																
13.	Power line approach limiting device																
14.	Greasing and lubrication																
15.	Cab locking																
	SWING AND HOISTS																
16.	Brakes, clutches and controls																
17.	Pawls, ratchets and locking devices																
	BOOM AND JIB																
(Summary visual inspection)																	
18.	Pins, cotter pins and hinge pins																
19.	Boom stop																
20.	Oil and hoses (hydraulic boom)																
	ROPES AND ACCESSORIES																
(Summary visual inspection)																	
21.	Main and auxiliary hoist ropes																
22.	Boom hoist rope																
23.	Rope spooling on drums																
24.	Boom and jib pendants																
25.	Rope attachments																

26. Pulley blocks, hooks and safety latches
27. Sheaves, bearings and harnesses
CARRIER
28. Brakes
29. Tires and wheel lugs
30. Engine oil and water
31. Lights and flashers
32. Heater and window defroster
33. Outriggers

Sheet 2 Crane No. Serial No. Make and Model MOBILE CRANE
Monthly inspection for the month of 20

Points		Points	
34.	Hand rails, footridges, non-skid floors	42.	Load chart
35.	Exhaust pipe	43.	Detailed inspection of boom and jib structure
36.	Electrical system and batteries	44.	Load indicator
37.	Hoist drums	45.	Machinery guards
38.	Cylinders and hydraulic system	46.	Cable keepers on all sheaves
39.	Turntable	47.	Compressed air equipment
40.	Counterweight fastening	48.	Crawler (caterpillars, rollers, sprockets, etc.)
41.	Gantry and live mast		

INSPECTED BY: FUNCTION: DATE:
NOTE: All the monthly tests prescribed by the manufacturer's manual shall be carried out.
Enter below the complete details with respect to any maintenance, inspections, tests and the revisions and modifications carried out. All incidents,

DATE	INITIALS	COMMENTS

O.C. 1413-98, s. 29.

SCHEDULE 10

(s. 2.15.7.4)

TOWER CRANE LOG

Sheet 1 Crane No. Serial No. Make and Model

Daily inspection for the month of 20
Some of the tests recommended below may not apply depending on the type of crane or on the kind of work to be carried out.
Indicate the result of each field inspection by checking (P), if the element tested is in good condition.
Blacken the square (n) in case of defects and specify those defects on sheet 2.
This log shall be filled during regular working hours by the worker who has carried out the testing, test, field inspection or repair. NAME OPERATOR
(write legibly)

Number of work hours
(Crane) (Cumulative)

	DAY:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
STATIONARY AND TRAVELLING TOWER CRANES																	
1.	Windows and windshield wipers																
2.	Telephone or radio communication																
3.	Anemometer																
4.	Jib weathervaning device																
5.	Controls and deadman device																
6.	Horn																
7.	Trolley position indicator																
8.	Heater and window defroster																
9.	Hook height limit switch																
10.	Trolley limit switches																
11.	Hoist brake																
12.	Trolley brake																
13.	Slewing brake																
14.	Guy, support and anchorage systems																
15.	Hoisting rope, attachments, hook and safety latch																
16.	Slings and rigging																
17.	Grounding																
18.	Noise and running order																
19.	Cab locking																
20.	Structure (welds, deformations, joints, etc.)																
21.	Load limit switch																
22.	Safety belt																
23.	Lanyard																
24.	Fire extinguisher																
	TRAVELLING CRANE																
25.	Rails gauge, levelling and anchorage																
26.	Rails and longitudinal sleepers splices																
27.	Rails electrical junction (grounding)																
28.	End stops and buffers																
29.	Travel switches limit																

30. Electric power cable
31. Rail clamps
32. Carriage ballast
33. Travelling brakes
34. Railroad cluttering
35. Water drainage or snow removal

Sheet 2 Crane No. Serial No. Make and Model TOWER CRANE
Monthly inspection for the month of 20

POINT		POINT	
36.	Brake adjustment (wear)	45.	Other electrical devices (visual inspection)
37.	Counterweight fastening and supports	46.	Bolting
38.	Thorough verification of ropes and attachments	47.	Guarding of moving parts
39.	Drums, sheaves and bearings	48.	Handles, steps and safety line
40.	Crown and pinion	49.	Footbridges, guardrail and ladders
41.	Wheels and bearings (trolley)	50.	Operator's seat
42.	Junction box waterproofness	51.	Hoisting rope, attachment, hook and safety latch
43.	Contactors (visual inspection)	52.	Slings and rigging accessories
44.	Motors, wiring, cabling (visual inspection)		

INSPECTED BY: FUNCTION: DATE:
NOTE: All the tests prescribed by the manufacturer's manual shall be carried out.
Enter below the complete details in respect of any maintenance, inspections, testings and revisions and modifications carried out. All incidents, mi
DATE INITIALS COMMENTS

O.C. 1413-98, s. 29.

TRANSITIONAL PROVISIONS

2015

(O.C. 428-2015) **SECTION 9.** Sections 1 to 5 of this Regulation apply, from the following dates, to open sites that the number of workers indicated will occupy simultaneously at a particular stage of the work or for the duration of the work:

(1) 18 June 2015 if there are 100 or more workers;

(2) 18 December 2015 if there are between 50 and 99 workers;

(3) 18 June 2016 if there are 50 workers or fewer.

Despite section 8, sections 162 to 165 of the Regulation respecting occupational health and safety (chapter S-2.1, r. 13) continue to apply to construction sites or, where applicable, to the categories of sites specified in that Regulation, until the rules provided for in sections 1 to 5 apply to them in accordance with the first paragraph.

(O.C. 57-2015) **SECTION 63.**

Despite section 27, until the standard Explosives – Quantity Distances, BNQ 2910-510, is made and published by the Bureau de normalisation du Québec, the distances for the disposition of depots, provided for by the standard in paragraph *b* of section 4.4.1 of the Safety Code for the construction industry, are those provided for in the Quantity Distance Principles User's Manual published in 1995 by the Explosives Regulatory Division of Natural Resources Canada.

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